

Intrusion Catalogue 2010

Wireless,
hybrid and wired solutions



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The company



The company

Founded in 1933, Fracarro is, today, one of the most important European companies in the field of the reception and distribution of audio video data signals and active security.

The synergy between the two activity divisions allows Fracarro to propose integrated solutions for the realization of intelligent buildings and homes.

Within the Security division, Fracarro has offered for 25 years a complete range of products for the protection of people and the control of locations by designing and producing integrated intrusion and video-surveillance systems. The company has always committed itself to guarantee high quality products and has paid particular attention to a series of services specifically studied for the sector operators.

ISO 9001 Certification

Fracarro Quality Management System is recognized by the CSQ in conformity with the ISO 9001:2000 regulation.



Conformity with the European Directives

Fracarro products are in conformity, where applicable, with the following European Directives:

- ▶ 2006/95/EC (LVD - Low voltage)
- ▶ 2004/108/EC (EMC - electromagnetic compatibility)

and with the relevant Italian actuation decrees, which means the products passed the tests foreseen by the harmonized technical regulations carried out by primary certified laboratories. These products are marked CE.

For further information relevant to the Fracarro Quality Policy, see our web site at www.fracarro.com



Services



Technical Support

Fracarro provides technical assistance to resolve any installation problems quickly.

This service is available within each Fracarro company, with specialised staff ready to provide information and assistance for all projects.



Training

Fracarro has always been committed to provide installers with training relevant to new technological issues and has been constantly engaged all over Italy in organizing training courses in the event of exhibitions, road shows and even in collaboration with its customers or partners. Besides realizing technical support documents, such as Fracarro Notebooks and Fracarro News Magazine, the company today is involved in important training projects that aim at the professional growth of the sector.



Web site

With a new image and structure, the Fracarro web site is constantly updated with news and the initiatives of the company. In particular, the Technical Support Division provides installers with information to help them in their professional activity, thanks to a direct line with the headquarters personnel.

fracarro.com



Defender System

All the security in one unique system

The result of the much work performed by Fracarro's Research & Development staff is Defender, the intrusion system innovative for its flexibility, complete range and technology.

Defender is available in wireless and wired versions and can be used in any type of installation, from residential to professional systems (such as shops, businesses, professional offices, etc.), thanks to its complete range.

Defender has unique management logics of the control units and system elements, a coordinate design and only one simple and intuitive interface. It can be programmed and managed remotely through a PC and, thanks to the use of the video-combiner Okkio, it provides advanced control functions of the locations (active video verification).

The Defender system allows you to create hybrid installations, wired + wireless, that are able to even protect difficult-to-reach areas through the traditional cabling systems (for example, in cases of historical buildings).



Summary table of Defender control units

					
Control units	Defender WL	Defender 8 EXP	Defender 12 EXP	Defender 64/64M	Defender 64T
Input number	22 wireless 4 wired	4	8	8	8
Expandable to	52 wireless	8	12	64	64
Partition number	6	4	4	12	12
Output number	4	6	6	6 expandable to 22	6 expandable to 22
Rapid activation keys	✓	✓	✓	✓	✓
Phone dialler that can be integrated in the control unit	✓	✓	✓	✓	✓
Remotely managed by PC	✓	✓	✓	✓	✓
Accessory connection to BUS	-	✓	✓	✓	✓
Technological alarm management	✓	✓	✓	✓	✓



Defender WL



From Fracarro's expertise **DEFENDER WL** is born, the wireless system that ensures a high level of security and meets all the installation needs from residential homes to small businesses.

Thanks to the use of the most innovative technological solutions (bi-directional transmission, multi-channel technology, frequency hopping), **DEFENDER WL** ensures the maximum protection level against environmental disturbances and radio tampering attempts. Moreover, the double anti-opening and anti-tear protection fitted on all the system devices signals any tampering attempt.

DEFENDER WL is rapidly installed and is very easy to use, thanks to the LC keypad integrated in the control unit and its remote control with status feedback of the installation.

SW Defender WL can be completely programmed from the PC.

The low consumption of devices and lithium batteries (included) guarantee an average autonomy of 3 years.

All Defender WL system devices can be used to extend the traditional wired installation, thanks to the two MOD-SEL WL and MOD-WL04 interfaces.

The wide selection of phone diallers meets all communication needs. The CT-PRO notifies the alarm by means of the PSTN line; the MODE-GSM and WL04GSM allow for the system connection, even in the absence of the traditional phone line.

Principal characteristics:

- up to 22 associated devices
- possibility to make up to 6 partitions
- modular system: possibility of further extensions
- assignment of only one address for each system device
- control unit signalization of the battery level of each device
- automatic temperature compensation on each detector
- 4 wired input
- preventive test of radio signal (one man test) showing the signal power
- transmission of alarms by PSTN and GSM phone diallers
- remote control with sound and visual feed-back of the installation status
- up to 300 meters of range in free air space
- immune to radiofrequency disturbances
- permanent radio supervision
- antimasking protection

Wireless control panel

DEFENDER WL

DEFENDER WL

Wireless control panel, multi-channel, bi-directional, with integrated 20 buttons keypads, LCD display. **Defender WL** manages up to 22 devices and has 4 wired input. Programming and management are easy so **Defender WL** can offer the maximum flexibility with the possibility to create up to 6 zones in the system.



Main Characteristics

- Wireless bi-directional connection with all the devices
- Sensitivity of the devices adjustable by control panel
- 4 adjustable output open collector
- Display LCD alphanumeric backlighted
- Input, output, zones, remote controls and codes can be re-named
- Intuitive programming: by tree menu on the control panel display; by PC using SW Defender WL
- Radio coverage up to 300 mt (free space)
- 90 dB adjustable siren integrated in control panel

- Self-diagnosis of the system with indication on display/PC of eventual faults
- Supervising frequency adjustable from 5 to 60 minutes
- Anti-masking system of radio signal
- Double tamper protection

Other Characteristics

- 4 wired input
- 4 channels of communication in tight band
- Continuous radio supervising
- Access levels: 1 Installer code for programming: 16 User codes for customized management of the system
- Preliminary test of radio coverage (One man test) with indication of signal power
- "Frequency hopping" technology
- Protection against opening and wall removal
- Easy activation by functions: "One touch menu" and "One touch Arm"

- Fast activation by keypad and remote control of following alarms: Panic; Fire ; Medical
- Managing and activation total and partial by keypad and remote control
- LED indication: AC on; tamper alarm; system fault; entry/exit time; alarm; fire alarm.
- Security code anti-duress
- Entry/ exit time adjustable from 0 to 255 seconds
- Memory log of 256 events with indication on display of time/hour
- Walk test
- Main power 230V; battery 12V, 2Ah.

Item code			DEFENDER WL 910331
Input		no.	22 wireless 2 wired
Output		no.	4
Power supply and consumption			
Power supply voltage		V	230
Battery (not included)	lead battery	V	12V
		Ah	2
Average battery life		Years	3
Characteristics			
Radio coverage (free space)		m	300
Transmission frequency		Mhz	868
Number of channels			4
Bandwidth		KHz	200
Supervising transmission	adjustable	min.	5/10/60
Dimensions (lxdxh)		mm	230x85x300
Operating temperature		°C	+5 to +50
Weight		Kg	2,050

Accessories	code	Description
SW DEFENDER WL	Free on fracarro.com	Software for the complete programming of the system by using cable CABUSB (code 999733). User-friendly, it operates in Windows OS

Defender WL

Telephone diallers

Digital dialler **CT-PRO**

CT-PRO

CT-PRO is a digital telephone dialler with vocal guide integrated; it transmits, via PSTN line, information about the alarms.

CT-PRO can communicate both by previously recorded messages and by digital protocols.

It allows the management of all anti-intrusion systems.

It can be installed within the MOD-BOX or within the Defender WL control panel.

CT-PRO can be integrated with additional module MOD-GSM to extend the communication also on GSM line.

By using MOD-GSM it's possible to use SMS text for sending alarms, programming and remote managing.



Main characteristics

- 4 alarm input, 2 output; 1 terminal that can be programmed as status/ output
- Transmission of alarms by digital protocols Fast Format and Contact ID
- Alarm vocal messages, that can be customized by internal dictionary
- 21 channels of alarm freely programmable
- Phone log with 64 telephone numbers freely linkable to the channels

Other characteristics

- Managing of the alarm delay activation
- Recognition of busy number and successful call
- Internal dictionary of around 300 words
- Duration of messages: 8 seconds
- Remote management via DTMF tones: it allows arming and disarming of the system (mode total or partial), knowing the status of the system and output, activate and deactivate output
- SMS text remote controlling (with optional MOD-GSM)
- Programming cycles of calls: from 1 to 4
- Programming of the repetition of the message: from 2 to 9
- Sending vocal messages via PSTN line

- Setting modes:
 - By telephone with buttons, with DTMF tones following the instruction of the vocal guide.
 - By SMS (with optional MOD-GSM)
- Possibility of extension to GSM network, by MOD-GSM (optional)
- Possibility of choice between full and basic programming (using default settings).

- SMS text alarm sending (with optional MOD-GSM)
- Block of call via DTMF code
- Possibility of limit the access in remote management just to numbers saved in the phone log
- Possibility to connect a battery
- Optional power supply
- Functional test
- Multi-frequency selection
- Memorization of all set parameters
- Alarm in case of false code and signalling in event memory
- 100 events log
- Led for status indication

Item code		CT-PRO 910319
Input		4
Output		2
Terminal programmable		1
Power supply and consumption		
Power supply voltage	V	12
Battery (if installed within MOD-BOX)	V	12
	type	1,2 Ah lead
Consumption	mA	140
Dimensions (lxdxh)	mm	125x93x25
Operating temperature	°C	+5 to +50
Weight	g	100

Telephone diallers

GSM dialler **WL04GSM**

WL04GSM

Wireless telephone dialler, vocal guide; it can send via GSM line 6 custom audio messages and 6 custom text messages (SMS).



Main characteristics

- 1 alarm channel adjustable
- Sending of vocal and text message via GSM line
- 8 telephone numbers
- 6 custom vocal messages and 6 custom SMS linkable to events
- 6 events: Alarm/AC loss/AC restore/Low battery/Life test/GSM line restore
- Removable GSM antenna
- Tamper against removal and opening

Other characteristics

- Setting and managing of the dialler via SMS
- Recording of vocal messages of 20 seconds
- Programming of the cycles of call
- Programming of message repetition
- ECHO function: it forwards incoming SMS to memorized numbers
- Life test
- 1 LED for signalling status line and GSM signal (4 levels)
- 1 led module GSM functioning
- 1 led system fault
- 1 installer code
- 1 user code
- Battery (not included) 12V, 2Ah
- 230V Power supply

Item code		WL04GSM 910344
Input	no.	1
Dimensions		307x230x85
Radio coverage (free space)	m	300
Transmission frequency	MHz	868
Power supply and consumption		
Power supply voltage	V	230
Battery (not included)	V	12
	Ah	1.2/ 2
	type	lead

Defender WL

Control devices

Remote keypad **WL04TR**

WL04TR



Wireless bi-directional keypad, LCD display for monitoring and managing Defender WL control panels. The integrated vocal guide makes easier the control of the system and signalize promptly alarm and system events.

Main Characteristics

- Total and partial arming of the system
- Events log
- Integrated vocal guide
- Radio coverage up to 300 mt in free space
- 1 auxiliary wired input for connecting a magnetic detector (useful, for ex., if the keypad is installed nearby a door or a window)
- Display indication of hour and environmental temperature

Item code		WL04TR 910348
Power supply and consumption		
Power supply voltage	V	9-15 AC
Lithium rechargeable battery	V	3.6
	Ah	1
Characteristics		
Radio coverage (free space)	m	300
Transmission frequency	MHz	868
Average battery life	months	4-6
Operating temperature	°C	-10 to +50
Dimensions (l x p x h)	mm	128x140x24
Weight (with batteries)	kg	0,6

Control devices

Remote control **WL04TC**

WL04TC



Bi-directional remote control with 4 buttons It allows to customize the management of control panel Defender WL and of interface MOD-WL04.

All 4 buttons are customizable for arming and disarming system and for functions such as: Panic/ Medical/ Fire/ Home automation.

Every input received by the control panel is confirmed by the remote control with acoustic and luminous signal.

By using "Info" button it's possible to receive information about the status of the system (activated, partially activated, deactivated). It has a circuit that avoids battery discharging due to accidental pressure of buttons.

Main Characteristics

- System arming/ disarming total and partial
- 4 customizable buttons with feed -back
- Radio coverage up to 200 mt in free space
- Rolling Code with technology KEELOQ®
- Information on system status (led + buzzer)
- Immunity to RFI interferences
- Electrostatic immunity
- 2 lithium battery supplied (type: CR2430)

Item code			WL04TC 910336
Power supply and consumption			
Power supply voltage	lithium battery	V	2 x 3V
		Type	LiMnO2
			0.25-0.3 Ah
Characteristics			
Radio coverage (free space)		m	300
Transmission frequency		MHz	868 (multichannel)
Average battery life		years	3
Dimensions (l x p x h)		mm	32x65x16
Operating temperature		°C	-10 to +50
Weight (with batteries)		g	28

Indoor detectors

Infra-red detector **WL04IR**

WL04IR

Volumetric, infra-red detector, wireless digital technology for indoor use. The bi-directional communication with the control panel and the multi-frequency technology (4 transmission channels) guarantee a total immunity both to false alarms and attempts of sabotage. Signalling leds allow an immediate visualisation during coverage test and diagnosis.



Main Characteristics

- Coverage up to 15 m
- Coverage angle 90°/110°
- Immunity to RFI interferences
- Immunity to white light
- Automatic temperature compensation
- Automatic sensitivity regulation
- Fresnel lens 22 zones
- Radio coverage up to 300 mt in free space
- Lithium battery 3,6V (supplied)
- Signalling led for coverage test, alarms and diagnosis (can be excluded by control panel)
- Adjustable bracket (optional, item WL04-SND cod.999731)

Item code			WL04IR 910333
Power supply and consumption			
Power supply voltage	lithium batteries	V type	3.6 Li-SOCL ₂ 2,4 Ah
Characteristics			
Radio coverage (free space)		MHz	868 (multichannel)
Transmission frequency	up to	m	300
Supervising transmission	adjustable	minutes	5/10/60
Average battery life		years	3
Dimensions (l x p x h)		mm	65x122x42
Operating temperature		°C	-10 to +50

Defender WL

Indoor detectors

Magnetic detector **WL04MM** and **WL04MB**

Magnetic wireless detector with digital technology for indoor use. WL04MM and WL04MB have internal magnetic contact and one input for connecting external wired devices.

The bi-directional communication with the control panel and the multi-frequency technology (4 transmission channels) guarantee a total immunity both to false alarms and attempts of sabotage.

Signalling leds allow an immediate visualisation during coverage test and diagnosis.



Main Characteristics

- Managing: wired inertial and magnetic detectors
- Immunity to RFI interferences
- Radio coverage up to 300 mt in free space
- Number of pulses adjustable by control panel
- Terminal for auxiliary input (magnetic, shutter, vibration)
- Terminal for inondation detector
- Power supply with lithium batteries 3.6V supplied
- Double internal magnetic contact, high sensitivity (reed switch)
- 2 colour versions: brown (WL04MM) and white (WL04MB)
- Anti-sabotage
- Tamper against opening and removal

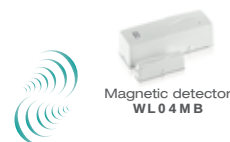
Item code			WL04MM 910334	WL04MB 910335
Power supply and consumption				
Power supply voltage	lithium batteries	V type	3,6 Li-SOCL ₂ 2,4Ah	
Characteristics				
Transmission frequency		MHz	868 (multichannel)	
Radio coverage (free space)		m	300	
Supervising transmission	adjustable	min	5/10/60	
Average battery life		years	3	
Dimensions (l x p x h)		mm	93 x 31 x 27	
Operating temperature		°C	-10 to +60	
Weight		g	83.5	

Example of installation

WL04MM - WL04MB



Magnetic detector
WL04MB



Magnetic detector
WL04MB



Siren
WL04SEL



CONTROL panel



Magnetic detector
WL04MB

Indoor detectors

Magnetic detector (2ch) **WL04MM2** and **WL04MB2**

Magnetic wireless detector with digital technology for indoor use, with 2 channels. WL04MM2 and WL04MB2 have internal magnetic contact and auxiliary input (can be individually identified) to connect inertial (RI55) and wire (RF45) external devices.

The bi-directional communication with the control panel and the multi-frequency technology (4 transmission channels) guarantee a total immunity both to false alarms and attempts of sabotage.

Signalling leds allow an immediate visualisation during coverage test and diagnosis.



Main Characteristics

- Singular identification of auxiliary devices (wire and inertial)
- Immunity to RFI interferences
- Radio coverage up to 300 mt in free space
- Number of pulses adjustable by control panel
- Terminal for auxiliary input (magnetic, shutter, vibration)
- Terminal for inondation detector
- Power supply with lithium batteries 3.6V supplied
- Double internal magnetic contact, high sensitivity (reed switch)
- 2 colour versions: brown (WL04MM2) and white (WL04MB2)
- Anti-sabotage
- Tamper against opening and removal

Item code			WL04MM2 910353	WL04MB2 910352
Power supply and consumption				
Power supply voltage	lithium batteries	V type	3,6 Li-SOCL ₂ 2,4Ah	
Characteristics				
Transmission frequency		MHz	868 (multichannel)	
Radio coverage (free space)		m	300	
Supervising transmission	adjustable	min	5/10/60	
Average battery life		years	3	
Dimensions (l x p x h)		mm	93x31x27	
Operating temperature		°C	-10 to +60	
Weight		g	83.5	

Example of installation

WL04MM2 - WL04MB2



Defender WL

Indoor detectors

Smoke detector **WL04RF**

WL04RF

Wireless smoke bi-directional with double-technology:

- optical: it reacts to visible smoke caused by a combustion
- thermo-velocimetric: it reacts to sudden change of temperature

The detector has the test function by an internal reed. The led for signalization allows an immediate visualization during coverage test and diagnosis. It functions even in case of system disarmed.



Main Characteristics

- Optical and thermo-velocimetric technology
- Sensitivity: 10°C/ min., complying to EN54, class A, 2R.
- Radio coverage up to 300 mt in free space
- 3 levels sensitivity adjusting
- Automatic temperature compensation
- Immunity to RFI interferences
- Lithium battery 3.6V supplied
- Reset signal from control panel

Item code			WL04RF 910337
Power supply and consumption			
Power supply voltage	lithium battery	V type	3,6 Li-SOCL ₂ 2,4Ah
Characteristics			
Radio coverage (free space)		m	300
Transmission frequency		MHz	868
Supervising transmission	adjustable	min	5/10/60
Average battery life		years	3
Dimensions (dxh)		mm	106x53
Operating temperature		°C	-10 to +60
Weight		g	160

Outdoor protections

Barrier **WL04BL100 EX** and **WL04BL200 EX**

WL04BL100 EX
WL04BL200 EX

Wireless bi-directional barrier, active infra-red, battery power supply.
It is formed by 2 elements: one transmitter and one receiver, to be installed one-on-one (up to a distance of 4 meters).
The barriers with active infra-red are indicated to protect passages and/ or internal and external windows in protected positions of different height and width.

The bi-directional communication with the control panel and the multi-frequency technology (4 transmission channels) guarantee a total immunity both to false alarms and attempts of sabotage.



Main Characteristics

- Number of rays: 4 (WL04BL100 EX)/ 8 (WL04BL200 EX)
- Max. installing distance: 4 meters
- Optical synchronism without additional wires
- Position of rays adjustable
- Visualization of the status of each ray
- Number of rays to be interrupted to generate an alarm adjustable: 1 or 2
- Radio coverage up to 300 mt in free space
- Tamper against opening
- Self diagnosis
- Sending signalisation of: alarm, restore, sabotage/ rip, low battery, supervising
- Buzzer for indicating low battery
- Possibility to divide the radio transmitter from the barriers, to create a more complete and discreet protection
- Grade of protection IP44
- 2 lithium batteries 3.6V 19 Ah supplied

Item code			WL04BL100 EX 910345	WL04BL200 EX 910347
Power supply and consumption				
Power supply voltage	lithium batteries	V	2 x 3,6	
Characteristics				
Length		m	1	2
Number of rays			4	8
Radio coverage (free space)		m	300	
Transmission frequency		MHz	868	
Supervising transmission		min	each 30	
Average battery life		years	3 years with 4 rays at 4 mt	2-3 years with 8 rays at 4 mt
Dimensions (l x p x h)		mm	40x37x1240	40x39x2240
Operating temperature		°C	-25 to +55	
weight (without batteries)		Kg	1.75	3.5

Accessories		code	Description
BT-BL		910350	Replacement lithium battery for WL04 BL100/200 EX

Defender WL

Outdoor protections

Volumetric detector **WL04IR EX**

WL04IR EX

Outdoor infra-red wireless detector bi-directional, PET-IMMUNITY, with battery power supply.

Based on multiple beams technology, WL04IR EX uses 2 detection beams; the detector generates an alarm only when both beams (upper and lower) are simultaneously activated.

This minimizes the possibility that external phenomena, such as temperature change, light reflection or presence of little animals cause false alarms.



Main Characteristics

- Double sensitive element
- High immunity to false alarms
- Advanced compensation of temperature
- Double conductive shield
- Possibility of installing several adjacent detectors to enlarge the area of detection
- Radio coverage up to 300 mt in free space
- Tamper protection against opening
- Pulse count: 2 or 4 pulses in $20 \pm 5s$
- RF interferences: no alarm up to 30V/m
- Mounting: wall, pole, pipes
- Mounting height: from 0,8 m to 1,2 m
- Standard accessories: kit pole mounting, mounting screws, label for area masking
- Lithium batteries supplied

Item code			WL04IR EX 910343
Technical specifications			
Coverage	length	m	12
	angle	°	90
Coverage zones		no.	14
Mounting height		m	0,8-1,2
Detection moving		m/sec	0,3-1,5
Sensitivity adjusting			2 °C to 0,6m/s
LED indication	during start		blinking
	in alarm		on
Pulse counting		count/sec	2 or 4 pulses in 20±5s
Power supply and consumption			
Power supply voltage	lithium batteries	V	3.6
Average battery life		Years	3
Characteristics			
Radio coverage (free space)		m	300
Supervising transmission	adjustable	Minutes	50/10/60
Protection		grade	IP54
Dimensions (lxdxh)		mm	78x105x195
Operating temperature		°C	-20 to +50
Weight		G	900

Outdoor sirens

Siren **WL04SEL**

WL04SEL

Outdoor wireless siren bi-directional, with digital technology. Easy mounting by spirit level.

WL04SEL has LED flash for high visibility. Siren is protected against opening and removal.

Using interface MOD-SEL it's possible to connect the siren WL04SEL even to wired system.



Main Characteristics

- Acoustic power 120 dB at 1 mt
- Protection against the opening of the cover and wall removal
- Different sound tone depending on the type of alarm: intrusion, fire
- Radio coverage up to 300 mt in free space
- Led for signalling coverage test, alarms and diagnosis
- Lithium batteries supplied

Item code			WL04SEL 910332
Power supply and consumption			
Power supply voltage	lithium batteries	V Type Ah	2 x 3.6 D 19
Characteristics			
Radio coverage (free space)		M	300
Transmission frequency		MHz	868
Bandwidth		KHz	200
Supervising transmission	adjustable	min	5/10/60
Average battery life		years	4
Dimensions (l x p x h)		mm	280x210x90
Operating temperature		°C	-30 to +65
Weight		g	1.920

Accessories	code	Description
BT-SEL	910346	Replacement lithium battery for WL04SEL

Defender WL

Wireless kits

Kit DEFENDER WL

DEFENDER WL

Kit Defender WL guarantees a reliable and up-to-date system alarm, it's easy to install in all the premises without masonry intervention.

All the Fracarro kit allow the realization of open system, expandable following further demands; they are suitable for different locations and small trade.

The bi-directional communication between devices and control panel and the multi-frequency technology (4 transmission channels) guarantee a total immunity both to false alarms and attempts of sabotage.



Main Characteristics

- Bi-directional radio transmission from the control panel to all the devices
- Continuous radio supervision
- Adjusting detectors sensitivity from control panel
- Self-diagnosis of the system, with indication of faults on the display
- Adjustable siren 90 dB integrated in control panel
- Radio coverage up to 300 mt in free space
- Preliminary test of radio coverage (One man test) with indication of signal power
- "Frequency hopping" technology
- Easy activation by functions: "One touch menu" and "One touch Arm"
- Anti-masking system of radio signal
- PSTN and GSM telephone dialler
- Infrared detector: automatic sensitivity adjusting and automatic compensation of the temperature
- Magnetic detector: possibility of managing wired inertial and magnetic detectors; double reed switch high sensitivity.
- Remote control: acoustic (buzzer) and visual feedback (led) for the indication of the system status and the confirmation of the required actions.

Kit Defender WL (code 910338), is composed as follows:

- 1 control panel Defender WL, that manages the whole system.
- 1 magnetic detectors WL04MB (white) with auxiliary input, mountable on every type of frame.
- 1 indoor digital infra-red detector WL04IR, with optional bracket
- 1 remote control WL04TC, 4 customizable buttons, acoustic and visual feedback about the status of the system.

Wireless kits

Kit DEFENDER WL+

DEFENDER WL+

Kit Defender WL+ guarantees a reliable and up-to-date system alarm, it's easy to install in all the premises without masonry intervention. All the Fracarro kit allow the realization of open system, expandable following further demands; they are suitable for different locations and small trade. The bi-directional communication between devices and control panel and the multi-frequency technology (4 transmission channels) guarantee a total immunity both to false alarms and attempts of sabotage.



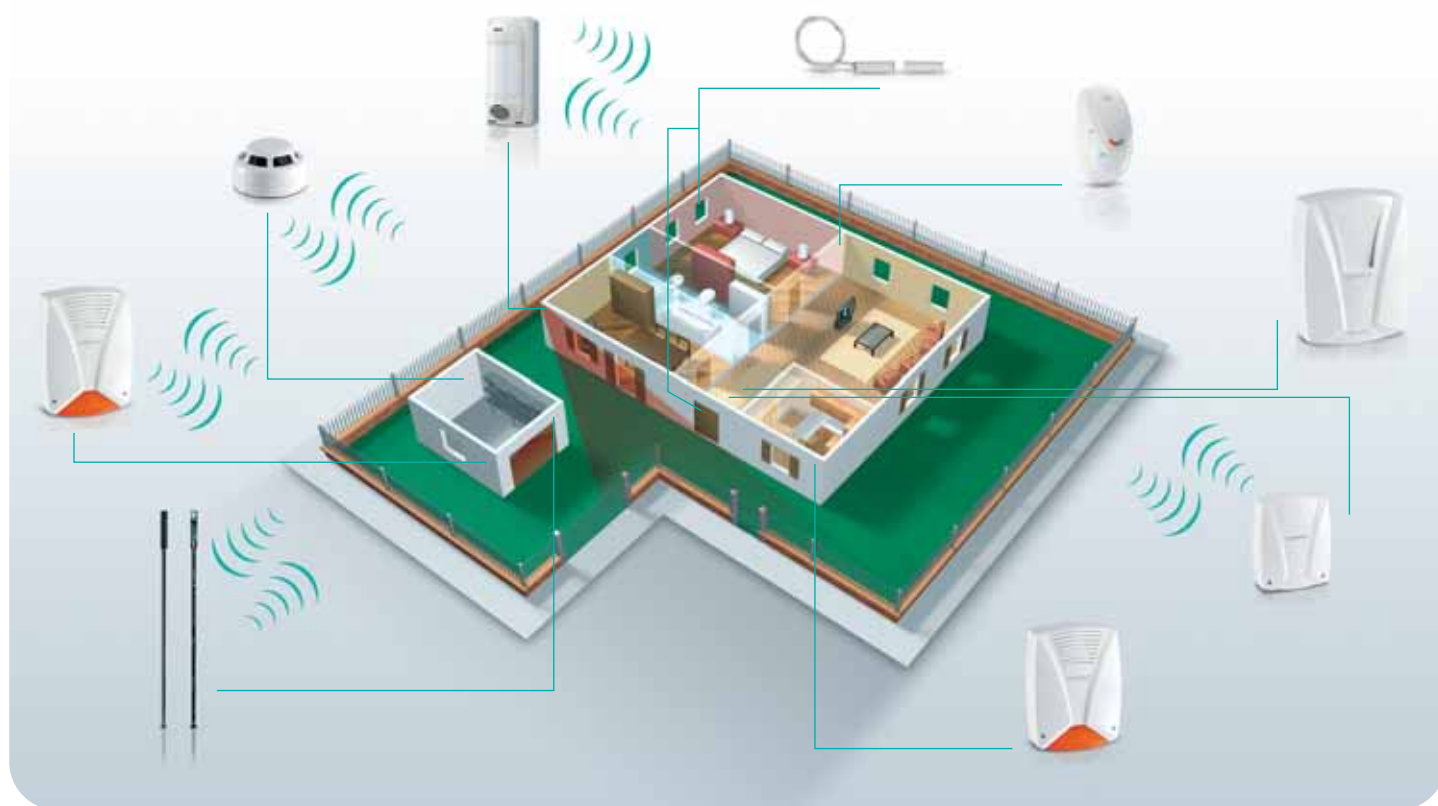
Main Characteristics

- Bi-directional radio transmission from the control panel to all the devices
- Continuous radio supervision
- Adjusting detectors sensitivity from control panel
- Self-diagnosis of the system, with indication of faults on the display
- Adjustable siren 90 dB integrated in control panel
- Radio coverage up to 300 mt in free space
- Preliminary test of radio coverage (One man test) with indication of signal power
- "Frequency hopping" technology
- Easy activation by functions: "One touch menu" and "One touch Arm"
- Anti-masking system of radio signal
- PSTN and GSM telephone dialler
- Infrared detector: automatic sensitivity adjusting and automatic compensation of the temperature
- Magnetic detector: possibility of managing wired inertial and magnetic detectors; double reed switch high sensitivity.
- Remote control: acoustic (buzzer) and visual feedback (led) for the indication of the system status and the confirmation of the required actions
- Outdoor siren: double protection anti-tamper; easy installing thanks to spirit level; led for signalling coverage test alarm and diagnosis.

Kit Defender WL+ (code 910339), is composed as follows:

- 1 control panel Defender WL, that manages the whole system
- 2 indoor digital infra-red detector WL04IR, with optional bracket.
- 1 outdoor system WL04SEL high acoustic power and high visibility thanks to LED flash.
- 1 remote control WL04TC, 4 customizable buttons, acoustic and visual feedback about the status of the system

Hybrid Systems



The Defender system allows you to create hybrid systems, integrating wired and wireless devices by means of two universal interfaces, MOD-SEL WL and MOD-WL04.

These two devices allow you to expand any wired anti-intrusion system, whether new or already installed, using the wireless devices of DEFENDER WL series.

The combined systems are especially useful in cases in which it is difficult to obtain the connection of additional devices or one does not want to do any additional brick work.

The MOD-SEL WL device completes a wired anti-intrusion installation with one or two external wireless WL04-SEL sirens.

The MOD-WL04 device allows you to complete a wired anti-intrusion installation with 32 wireless devices of the Defender WL range, which can be gathered in 4 separate zones.

An example of a particularly useful MOD-WL04 application is the possibility of completing a wired installation with outdoor wireless protection, therefore avoiding the new wiring and brick work in the place of installation.

The Defender hybrid systems use the most innovative technological solutions and ensure the maximum protection level from environmental disturbances and radio tampering attempts. Moreover, the double anti-opening and anti-tear protection fitted on all the system devices signals any tampering attempt.

Principal characteristics:

- Complete bi-directional radio transmission
- Multi-channel technology
- Frequency hopping technology

Interface for wired/wireless systems

Interface MOD-WL04

MOD-WL04

MOD-WL04 allows to create hybrid systems connecting up to 32 devices of Defender WL system to a wired control panel by bi-directional radio connection. It can interface with indoor infra-red detectors (WL04IR), magnetic contacts (WL04MM/ MB), smoke detectors (WL04RF).

The device allows also the radio communication to outdoor sirens (WL04SEL) and active infra-red barriers (WL04BL 100 and 200 EX).

It can manage the system by remote control WL04TC. The interface can be mounted within the plastic box.

The programming is very easy by just 2 buttons.



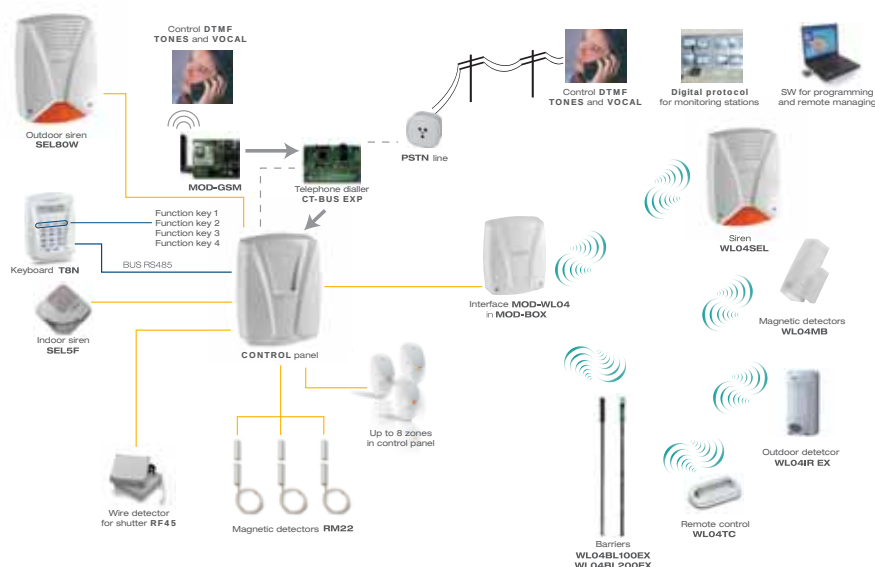
Main characteristics

- 3 operating modes: Normal, Trouble (signals any problem of the system), Learn (connect the devices to the system)
- Possibility of create 4 groups of the devices connected
- Possibility of partial reset of just one zone
- 4 output to connect the input zones of wired control panels; each zone is identified by led that signals its status
- 1 output for the indication: Low battery or Wireless device disconnected
- 1 output for tamper indication of the devices connected
- 1 input for the reset of wireless smoke detectors
- Information by LED about acquired devices status
- Radio coverage up to 300 mt in free space
- Supervision of the radio connection of all the devices (excepted remote controls)
- Alarm in case of signal masking
- Remote control management for able, disable, activate partitions of the system
- Walk-Test of wireless devices

Item code			MOD-WL04 910340
Power supply and consumption			
Power supply voltage		V	9-15
Operating frequency		MHz	868
Consumption	Max with led activated	mA	60
Characteristics			
Radio coverage in free space		m	300
Dimensions (l x p x h)		mm	70x90x11
Operating temperature		°C	-10 to +50
Weight		g	28

Example of installation

MOD-WL04



Hybrid Systems

Module for siren

Module **MOD-SEL**

MOD-SEL

The module MOD-SEL allows to add up to 2 wireless sirens (WL04SEL) to a wired control panel, by using a bi-directional radio connection.

The Led and buzzer integrated provide information about the data transmission and reception, siren set-up and intensity of the signal.

2 relay connections inform about battery status and tamper of acquired devices.



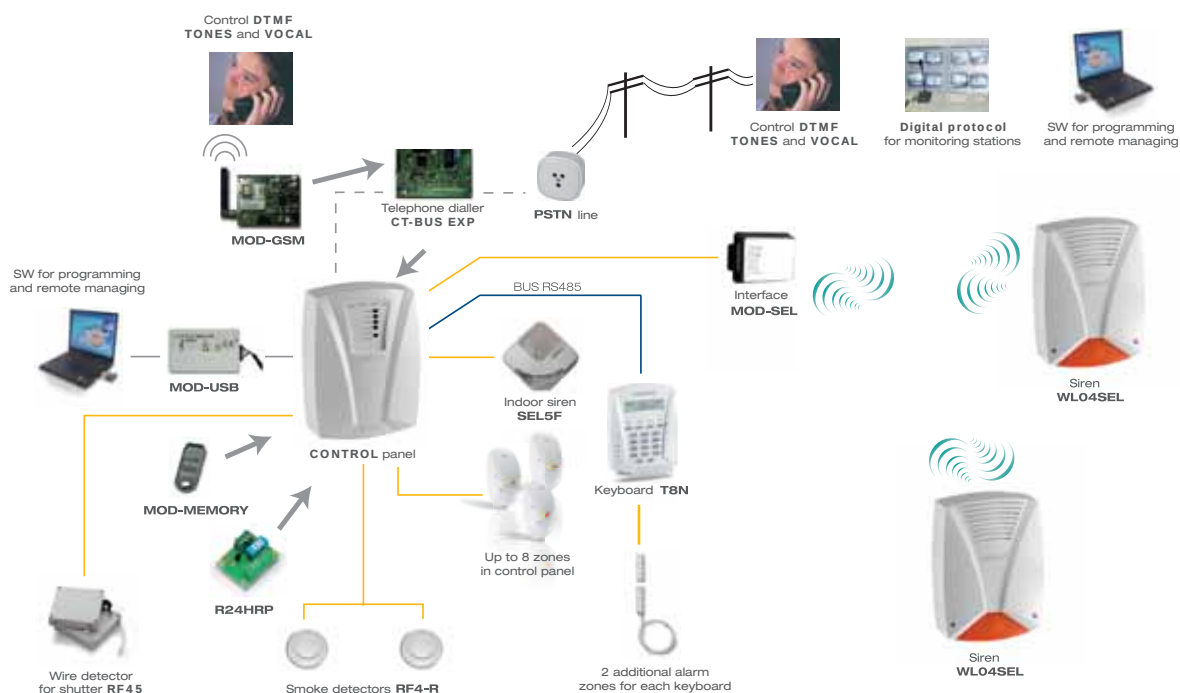
Caratteristiche principali

- 2 relay output linked to battery status and tamper of the connected devices
- Radio coverage up to 200 mt in free space
- Test mode to check radio coverage
- Managing of acquired devices battery by dedicated output in case of low battery

Item code			MOD-SEL 910341
Power supply and consumption			
Power supply voltage		V	6-15
Operating frequency		MHz	868
Current consumption	Stand-by	mA	25
	max		60
Characteristics			
Radio coverage (free space)		m	200
Dimensions (l x p x h)		mm	120x75x29
Operating temperature		°C	-40 to +70
Weight		g	83

Example of installation

MOD-SEL



Defender Wired



Defender Wired includes a complete range of control units (from 4 to 64 zones) and devices able to adapt to any location and characterized by particularly easy installation and management. The unique programming logics and versatility of all accessories, which can be connected to any type of Defender control unit, allow the immediate configuration and management of the whole system. Thanks to the use of the interface module (MOD-WL04 and MOD-SEL pp. 23-24), it is possible to create hybrid systems (which integrate both wired and wireless devices).

Principal characteristics

WIRED HEADEND UNITS

- Complete range of control units from 4 to 64 zones
- Programming and remote management from PC both remotely and locally through a USB
- GSM and PSTN diallers, which can be directly integrated into the control unit
- Possibility to remotely disable the proximity keys (with RFID technology) in the event they are lost or stolen

REMOTE KEYPAD

- Immediate activation of 4 functions which can be set freely
- LC display
- Keypad protected by a pivoting cover

MEMORY KEY

- Saving and filing of the whole system configuration

Defender Wired

BUS control panels

DEFENDER 8 EXP DEFENDER 12 EXP

DEFENDER 8 EXP
DEFENDER 12 EXP

DEFENDER 8 EXP: Control panel with all accessories on BUS, it can be managed by telephone dialler. It's ideal for security system with 4 zones, expandable up to 8 zones. A mechanical kit can be used (CHMEC-KIT).

DEFENDER 12 EXP: Control panel with all accessories on BUS, it can be managed by telephone dialler. It's ideal for security system with 8 zones, expandable up to 12 zones.

These control panels are ideal for small sized security system, e.g.: small flats, apartments, small commercial activities.

They are equipped with buttons and control LED.

DEFENDER 8 and 12 EXP can be managed by RFID electronic keys and by T8N keyboard, with LCD display.

They can be easily programmed by dip-switches, by the buttons of the panel, T8N keyboard and also PC.

Up to 4 partitions adjustable.

PSTN and GSM digital BUS telephone diallers can be mounted internally in both control panels.



Main characteristics

- The number of input can be expanded by using a 4 input expansion module
- Software filter for fast alarm detection (vibration and shutter detectors)
- Up to 4 system configuration can be saved by memory key
- 6 PGM outputs
- Up to 4 partitions adjustable
- Up to 8 remote keypad T8N for system managing and arming totally/ partially
- Programming by dip-switch and buttons
- Programming and managing also by PC (locally or remotely) by Defender SW
- 200 events buffered with date/ hour/ user/event type indication, for a better traceability
- Partitions can be activated also by RFID electronic key (up to 8 readers for electronic key)

Other characteristics

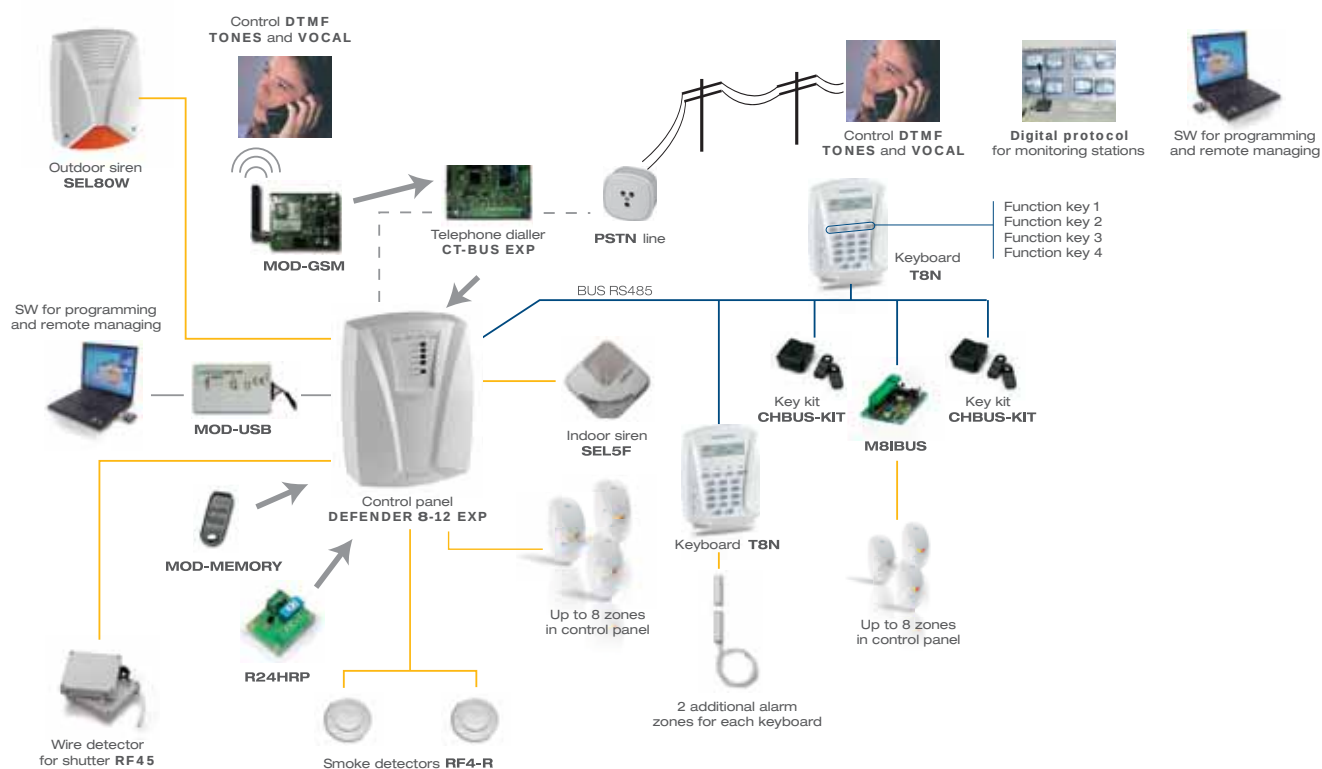
- Technology alarm managing (with reset function for smoke and gas detectors)
- BUS lenght up to 1500 m
- Protection against opening
- Tamper against wall removal (optional)
- Detectors power supply even when system's disarmed
- Circuit for charging external batteries
- 30 minutes (max) blocking for maintenance (self-protecting)
- System blocking (timer) in case of entering wrong code
- Entry/exit time settable from 0 to 255 seconds
- Display and PC faults indications
- Each input, PGM, zone, code, electronic key, keypad can be individually named
- Walk test function
- Each line can be set as single balancing, double balancing, NC or NO
- 6 PGMs outputs : 2 by voltage (positive and negative for sirens), 1 relay managed by a single command; 5 Open Collector (50 mA) default set but fully programmable
- User-keys linkable
- 2 levels and access codes: Installer/User
- Lines settable as: alarm, emergency, burglar, delayed, chime, alarm 24H
- LED indication: arming/disarming; AC power; tamper alarm; system fault; alarm
- Power supply 1 A
- Buzzer adjustable

Item code			DEFENDER 8 EXP 910201	DEFENDER 12 EXP 910202
Input		no.	4 expandable to 8	8 expandable to 12
Output		no.	6	
Power supply and consumption				
Voltage		V	230	
Power supply		A	1	
Battery	Lead battery	V	12	
		Ah	7	
Main Characteristics				
Dimensions (lpxh)		mm	235x95x310	
Operating temperature		°C	+5 to +50	
Weight		Kg	1	
Compliance			EN 60950 CEI 79-2	

Accessories		code	Description
CT-BUS EXP		910204	PSTN telephone dialler
MOD-GSM		910307	GSM module for CT-BUS
MOD-MEMORY		910309	Memory key for saving system configurations
T8N		910306	Keyboard
M4IBUS		910308	4 input module for lines expansion
MOD-5REL		910310	5 relays board
MOD-USB		910311	Module for connecting Defender control panels to PC
MOD-BOX		910312	Plastic box for housing module and telephone diallers
CHMEC-KIT		910313	Kit of mechanical keys for Defender 8
TAMPER-KIT		910314	Tamper kit
CE64T_RTC		911057	Timer programming
R24HRP		999146	Board 1 relay output
CHBUS-KIT		911032	Kit for electronic keys RFID

Example of installation

DEFENDER 8 EXP and DEFENDER 12 EXP



Defender Wired

BUS control panels

DEFENDER 64 and 64M

DEFENDER 64

Control panel with all accessories on BUS, it can be managed by dialler. It's ideal for security system with 8 zones, expandable to 64, fully programmable.

It's suitable for medium-large sized security systems.

DEFENDER 64 can be managed by RFID electronic keys and by T8N keyboard with LCD display.

It can be easily programmed by T8N keyboard or by PC (locally and remotely).

PSTN and GSM digital BUS telephone diallers can be mounted internally.

It can manage also functions for home automation simply programming PGMs for single actions or using time programmer optional).



DEFENDER 64 is available also in metallic box with 3,5 A power supply and 18 Ah battery (Defender 64M).

Main characteristics

- 8 zones expandable up to 64 by expansion module on BUS: M8IBUS, settable with 8 or 4 input zones, M4IBUS, set with 4 input zones.
- Software filter for fast alarm detection (for vibration and shutter detectors)
- Up to 4 system configuration can be saved by memory key
- 6 PGM outputs expandable up to 22 by expansion module on BUS, M8UBUS
- Up to 12 partitions adjustable
- Up to 8 remote keyboard T8N for system managing and total and partial arming
- 500 events buffered with date/hour/user/event type indication, for a better traceability
- 4 buttons for fast activations, on T8N keypad, fully programmable.
- Arming by BUS RS-485 remote electronic keys (8 readers for electronic key).
- Security code anti-duress: in case of system disarming under duress (on T8N keyboard) a silent alarm is triggered
- FRACARRO BUS diallers can be mounted internally.
- 2 configuration menu: basic, for a fast configuration; advanced for highly customized solutions
- Programming and managing can be performed also by PC (locally or remotely) by Defender SW.

Other characteristics

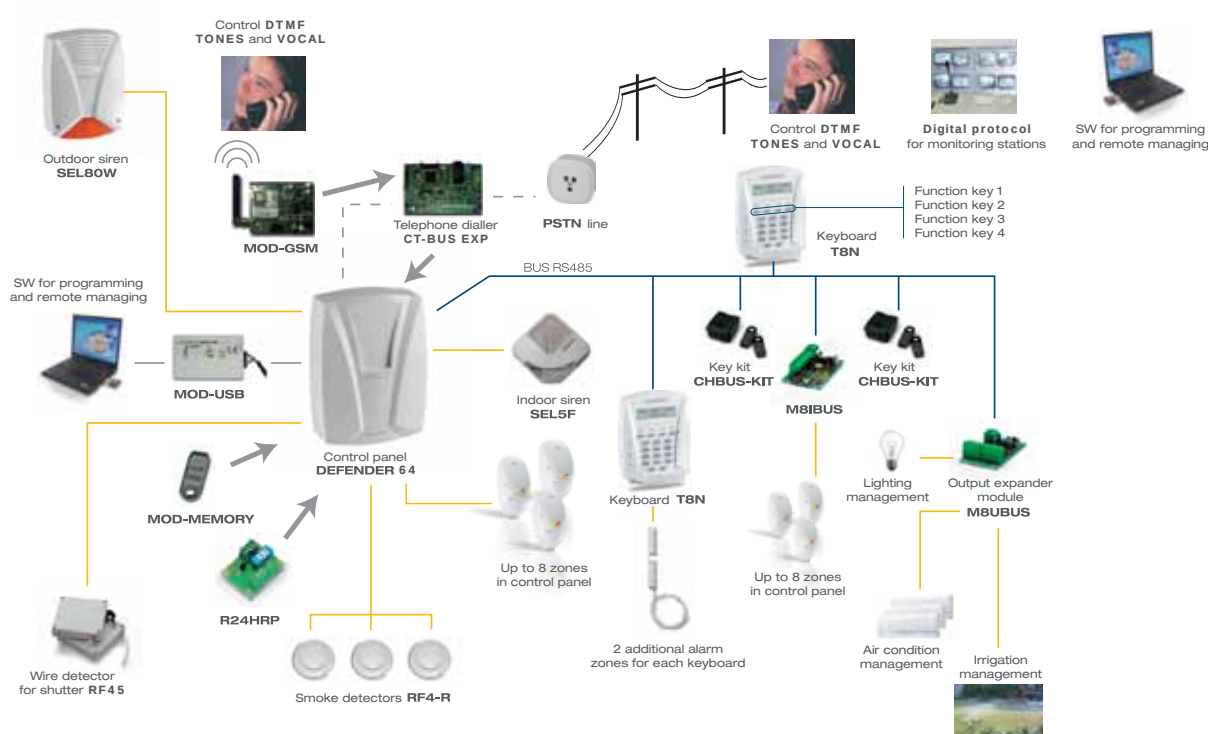
- Technology alarm managing (with reset function for smoke and gas detectors)
- BUS lenght up to 1500 m
- Protection against opening and wall removal
- Detectors power supply even when the system is disarmed
- Circuit for charging external batteries
- 30 minutes (max) blocking for maintenance (self-protecting)
- Block of the system (timer) in case of wrong code entered
- Entry/exit time settable from 0 to 255 seconds
- Display and PC faults indications
- Each input, PGM, zone, code, electronic key, keypad can be individually named
- Walk test function
- Each line can be set as single balancing, double balancing, NC or NO
- 6 PGM outputs : 2 by voltage (positive and negative for sirens), 1 relay managed by a single command;
- 5 Open Collector (50 mA) default set but fully programmable
- User-keys linkable
- 3 levels and access codes: (length from 2 to 7 digits): Installer; Master; User, up to 24 codes.
- Buzzer adjustable

Item code			DEFENDER 64 910303		DEFENDER 64 M 910315	
Input		no.	8 expandable to 64			
Output		no.	6 expandable to 22			
Power supply and consumptio						
Voltage		V	230			
Power supply		A	1		3,5	
Battery	Lead battery	V	12			
		Ah	7		18	
Main Characteristics						
Dimensions (lpxh)		mm	235x95x310		444x350x105	
Operating temperature		°C	+5 to +50			
Weight		kg	1		5,7	
Compliance			EN 60950 CEI 79-2			

Accessories	code	Description
CT-BUS EXP	910204	PSTN telephone dialler
MOD-GSM	910307	GSM module for CT-BUS
MOD-MEMORY	910309	Memory key for saving system configurations
T8N	910306	Keyboard
M4IBUS	910308	4 input module for lines expansion
M8IBUS	911060	8 input module for lines expansion
M8UBUS	911061	8 output module for lines expansion
MOD-5REL	910310	5 relays board
MOD-USB	910311	Module for connecting Defender control panels to PC
MOD-BOX	910312	Plastic box for housing module and telephone diallers
CE64T_RTC	911057	Timer programming
R24HRP	999146	Board 1 relay output
CHBUS-KIT	911032	Kit for electronic keys RFID

Example of installation

DEFENDER 64



Defender Wired

BUS control panels

DEFENDER 64T

DEFENDER 64T

Control panel with keypad and display integrated.

All accessories can be connected by BUS, it can be managed by dialler. It's ideal for security system with 8 zones, expandable to 64, fully programmable.

It can manage up to 12 partitions and 64 electronic key to activate the partitions. It's suitable for medium-large sized security systems.

Defender 64 can be managed by the integrated keypad, RFID electronic keys and by T8N keyboard with LCD display.

It can be easily programmed by T8N keyboard or by PC (locally and remotely).

PSTN and GSM digital BUS telephone diallers can be mounted internally.

It can manage also functions for home automation simply programming PGM output for single actions or using time programmer optional).



Main characteristics

- Display keypad integrated
- 8 zones expandable up to 64 by expansion module on BUS: M8IBUS, settable with 8 or 4 input zones, M4IBUS, set with 4 input zones.
- Software filter for fast alarm detection (for vibration and shutter detectors)
- Up to 4 system configuration can be saved by memory key
- 6 PGM outputs expandable up to 22 by expansion module on BUS, M8UBUS
- Up to 12 partitions adjustable
- Up to 8 remote keyboard T8N for system managing and total and partial arming
- 500 events buffered with date/ hour/ user/event type indication, for a better traceability
- 4 buttons for fast activations, on T8N keypad, fully programmable.
- Arming by BUS RS-485 remote electronic keys (8 readers for electronic key).
- Security code anti-duress: in case of system disarming under duress (on T8N keyboard) a silent alarm is triggered
- FRACARRO BUS diallers can be mounted internally.
- 2 configuration menu: basic, for a fast configuration; advanced for highly customized solutions
- and managing can be performed also by PC (locally or remotely) by Defender SW.
- Time programmer integrated

Other characteristics

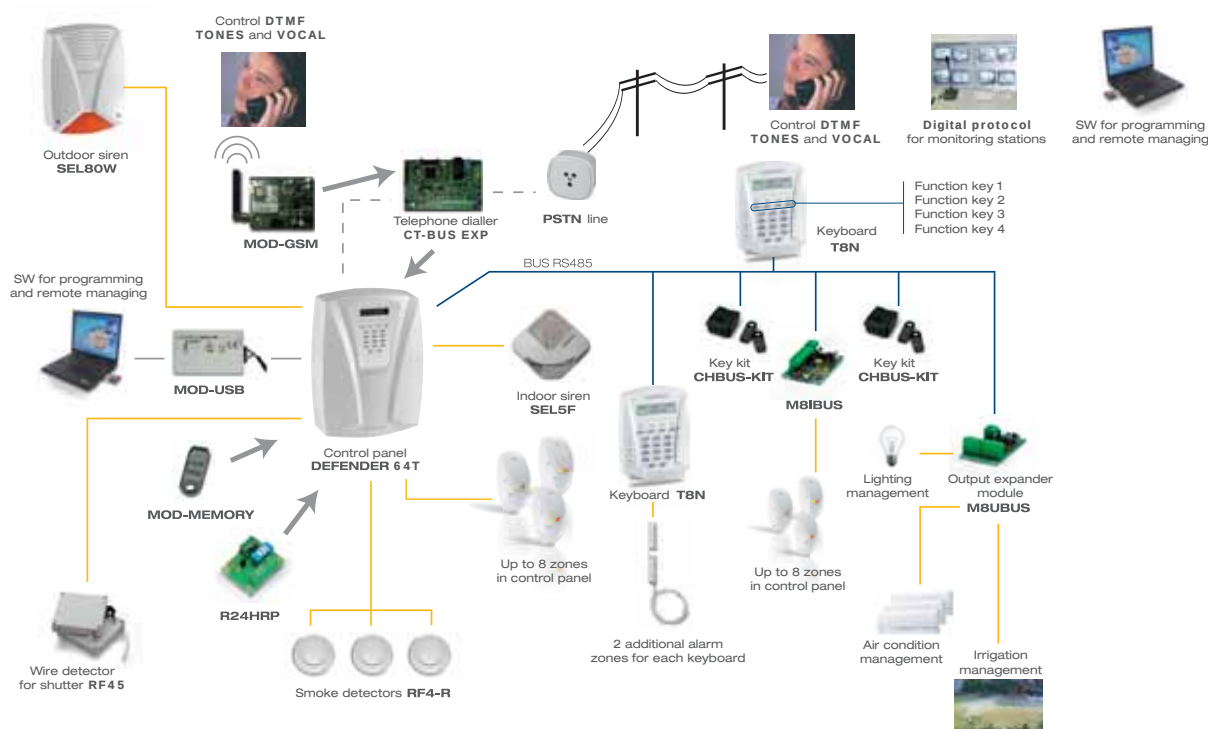
- Gestione di allarmi tecnologici (con funzione di reset Technology alarm managing (with reset function for smoke and gas detectors)
- BUS length up to 1500 m
- Protection against opening and wall removal
- Detectors power supply even when the system is disarmed
- 30 minutes (max) blocking for maintenance (self-protecting)
- Block of the system (timer) in case of wrong code entered
- Entry/ exit time settable from 0 to 255 seconds
- Display and PC faults indications
- Each input, PGM, zone, code, electronic key, keypad can be individually named
- Walk test function
- Each line can be set as single balancing, double balancing, NC or NO
- 6 PGM outputs : 2 by voltage (positive and negative for sirens), 1 relay managed by a single command;
- 5 Open Collector (50 mA) default set but fully programmable
- User-keys linkable
- 3 levels and access codes: (length from 2 to 7 digits): Installer; Master; User, up to 24 codes.
- Buzzer adjustable

Item code			DEFENDER 64 T 910318
Input		no.	8, can be expanded to 64
Output		no.	6, can be expanded to 22
Power supply and consumption			
Voltage		V	230
Power supply		A	1
Battery	Lead battery	V	12
		Ah	7
Main Characteristics			
Dimensions (l x p x h)		mm	235x95x310
Operating temperature		°C	+5 to +50
Weight		kg	1
Compliance			EN 60950 CEI 79-2

Accessories		code	Description
CT-BUS EXP		910204	dialler
MOD-GSM		910307	GSM module for CT-BUS
MOD-MEMORY		910309	Memory key for saving system configurations
T8N		910306	Keyboard
M4IBUS		910308	4 input module for lines expansion
M8IBUS		911060	8 input module for lines expansion
M8UBUS		911061	8 output module for lines expansion
MOD-5REL		910310	5 relays board
MOD-USB		910311	Module for connecting Defender control panels to PC
MOD-BOX		910312	Plastic box for housing module and telephone diallers
CE64T_RTC		911057	Timer programming
R24HRP		999146	Board 1 relay output
CHBUS-KIT		911032	Kit for electronic keys RFID

Example of installation

DEFENDER 64T



Defender Wired

Programming software

PROGRAMMER SICUREZZA

PROGRAMMER SICUREZZA

The software allows the complete management of the system by PC using the new interface MOD-USB for control panels.

There are 3 levels of interaction:

- Programming: modes for abling/ disabling the system; digital telephone dialler options; alarm messages and receivers; connected devices and their alarms; time of activation.
- Diagnosis: information about the proper functioning of the system such as: low battery, communication faults; RFI interferences.
- Remote managing: system abling/ disabling; home-automation functions.
- User-friendly, it operates in Windows OS.

Free download from web-site fracarro.com



Modules for USB control panel

Connection module MOD-USB

MOD-USB

It allows the connection between a PC (by USB port) and wired control panels of Defender system for realize the configuration of the system by software Programmer Sicurezza.

Code 910311

Main characteristics

- Interface USB 2.0
- 5 Led for status indication: USB connection; On/ Off; status of transmitter/ receiver.



Modules for USB control panel

Memory module MOD-MEMORY

MOD-MEMORY

Memory module for saving all the configurations of all wired Defender control panels without using PC.

The management of MOD-MEMORY is very intuitive by the menu of keyboard T8N (it's necessary to install it for use the device).

The upload and download take place connecting MOD-MEMORY to the board of the control panel.

Code 910309

Main characteristics

- 4 PIN connector
- Micro-SD
- It saves complete configurations of the system



Modules for USB control panel

Expansion module **M4IBUS**

Board with 4 input that allows the expansion of the number of zones of Defender wired control panels.

It's possible to install the M4IBUS within the control panel or remotely with the optional boxes MOD-BOX and CE64BOX (page 39).

Main characteristics

- The module has an electronic circuit that allows the management of fast alarms (vibration, wire...)
- Terminal removable
- Terminal for tamper protection

M4IBUS



Item code			M4IBUS 910308
Input		no.	4+1 tamper
Power supply and consumption			
Power supply voltage		V	8-15
Consumption		mA	20
Dimensions (lxpxh)		mm	80x55x25
Operating temperature		°C	0 to 40
Weight		g	60

Modules for USB control panel

Expansion module **M8IBUS**

M8IBUS is a board with 8 input that allows the expansion of the number of zones of Defender 64. It's possible to install the module within the control panel or remotely by using the optional boxes MOD-BOX and CE64BOX (page 39).

Main characteristics

- The module has an electronic circuit that allows the management of fast alarms (vibration, wire...)
- Terminal removable
- By dip switch the number of input can be reduced from 8 to 4 to make the installation more flexible

M8IBUS



Item code			M8IBUS 911060
Input		no.	8+1 tamper
Power supply and consumption			
Power supply voltage		V	8-15
Consumption		mA	20
Characteristics			
Dimensions (lxpxh)		mm	80x80x25
Operating temperature		°C	0 to +40
Weight		g	70

Defender Wired

Modules for USB control panel

Expansion module **M8UBUS**

M8IBUS is a board with 8 output that allows the expansion of control panels Defender 64 by the direct connexion to the BUS. It's possible to install the module within the control panel or remotely with the optional boxes MOD-BOX and CE64BOX (page 39).

Main characteristics

- It has 2 output and relay 6 output accessible by the removable terminal
- Removable terminal
- By dip switch can be reduced from 8 to 4 output to make the installation more flexible.

M8UBUS



Item code			M8UBUS 911061
Input		no.	1 tamper
Output		no.	8
Power supply and consumption			
Power supply voltage		V	8-15
Consumption	stand-by	mA	20
	max		50
Characteristics			
Dimensions (l x p x h)		mm	140x55x25
Operating temperature		°C	0 to +40
Weight		g	65

Modules for USB control panel

Board for control panel **CE64T_RTC**

The time programmer allows the management of all the actions executable automatically by the software of the Defender control panels.

Main characteristics

- The installation of the board guarantees the conservation of time and hour settings, even in case of power supply lack and the proper managing of the menu.
- It is placed on a slot to be inserted on the main board of the control panel
- Allows the automatical abling/ disabling of the control panel and/ or the PGM output

CE64T_RTC



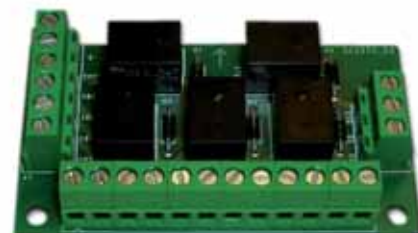
Item code			CE64T_RTC 911057
Power supply and consumption			
Power supply voltage		V	3,3
Consumption	stand-by	µA	0,3
	max		0,5
Characteristics			
Dimensions (l x p x h)		mm	19x45x13
Operating temperature		°C	0 to +40

Universal modules

Board with 5 relay output **MOD-5REL**

Board with 5 relay output, double exchanging 1A, 12V max.
The activating control comes from a logical control (Open Collector Output).
The module is suitable to increase the number of relay volt free output on the control panels.

MOD-5REL



Item code		MOD-5REL 910310
Output	no.	5
Power supply and consumption		
Power supply voltage	V	12
Max consumption with relay activates/ stand-by	mA	20/0
Dimensions (l x p x h)	mm	80x45x18
Operating temperature	°C	-10 to +40
Weight	g	70

Defender Wired

Control devices

Keyboard T8N

T8N

Alpha-numeric keyboard, LCD back-lighted. It allows an advanced managing of all Defender wired control panels.

It has 4 buttons, with led, fully programmable that allow fast activation of preferred functions.



Main characteristics

- Display LCD, 32 digits, blue back-lighted
- Display and buttons back-lighting adjustable
- 3 led for system status signalling: power supply, arming-disarming, alarm
- 4 buttons, and 4 led, fully adjustable for several keypads of the same system
- Buttons for timer and exclusions
- Buzzer adjustable
- 2 N.C. input that can be activated by dip-switch
- Flap for buttons protection
- Compact design
- Compatible with flushed box 503
- Protection against wall removal

Item code			T8N 910306
Input			2, N.C.
Main Characteristics			
Voltage		V	8-15
Consumption	stand-by	mA	20
	max with led and display activated		130
Dimensions (l x p x h)		mm	125x30x125
Operating temperature		°C	0 to 40
Weight		kg	0,250
Compliance			EN 60950

Control devices

ELECTRONIC KEYS

Devices for remote management of control panels.

The electronic keys allow the control (from one or more remote places) of the system.

The key-reader modules are compatible with the housing of series Magic® (bticino).

They can be used also with all the other frames thanks to the adaptors.

CHBUS-KIT: the KIT is composed of a set of 2 touch-keys (CH10-BG) and one reader (CHBUS).



Main characteristics

- Programming or deleting keys procedure is very easy and is performed after having installed the product.
- Abling, disabling and partial activation of the system
- All the reader modules have indication with three LED: control panel status, alarm memory, key not enabled
- Function for open doors and gates with activation time adjustable
- CHBUS has 4.294.967.296 possible combination of keys.

Item code			CHBUS-KIT 911032
Power supply and consumption			
Power supply voltage		V	8-15
Consumption	stand-by	mA	20
	max		30
Characteristics			
Housing		material	ABS
Housing protection		grade	IP3X
Dimensions (l x p x h)		mm	53x21x53
Operating temperature		°C	-10 to +40
Weight		kg	0,032

Accessories	code	Description
CH10-BG	911017	2 keys for the expansion of CHBUS-KIT

Defender Wired

Telephone diallers

PSTN telephone dialler **CT-BUS EXP**

CT-BUS EXP is a digital telephone dialler with vocal guide integrated; it transmits, by PSTN line, information about the alarms and the status of the system.

CT-BUS EXP can communicate both by previously recorded messages and by digital protocols.

It allows the management of all the wired control panel of the Defender system, to which it is connected by BUS.

It can be installed within the control panel or remotely by using the optional boxes MOD-BOX and CE64BOX.

CT-BUS EXP can also block the electronic keys associated to a Defender system; this function is very useful in case of theft or loss of the keys.

CT-BUS EXP can be integrated with additional module MOD-GSM to extend the communication also on GSM line.

CT-BUS EXP



Main characteristics

- Transmission of alarms by digital protocols Fast Format and Contact ID
- 32 alarm vocal messages; 16 of these are recordable by the user
- 32 channels of alarm freely programmable, can be extended to 40 by module MOD-GSM
- Phone log with 64 telephone numbers freely linkable to the channels

Other characteristics

- Managing of the alarm delay activation
- Block alarm even from the control panel
- Recognition of busy number and successful call
- Internal dictionary of around 300 words, customizable by user
- Duration of messages: 15 seconds
- Remote management via DTMF tones allows arming and disarming of the system (mode total or partial), knowing the status of the system and output, activate and deactivate output
- 16 activating events per each channel
- Programming cycles of messages: from 1 to 4
- Programming of the repetition of the message: from 2 to 9

- 3 setting modes:
 - By telephone with buttons, with DTMF tones following the instruction of the vocal guide.
 - By keypad T8N installed on the system
 - By PC using the interface module MOD-USB
- Possibility to manage the configuration modification via modem using Software Programmer Sicurezza.

- Possibility to trigger an alarm in case of BUS communication lost
- Sending vocal messages via PSTN line
- Block of call via DTMF code
- Possibility of limit the access in remote management just to numbers saved in the phone log
- Possibility to connect a battery
- Optional power supply
- Functional test
- Multifrequency selection
- Memorization of all programmed parameters
- Alarm in case of false code
- 100 events log, can be displayed by PC
- Led for status indication

Item code		CT-BUS EXP 910204
Input	no.	2
Output	no.	2
Power supply and consumption		
Power supply voltage	V/Ah	12/1.2
Battery (if installed within MOD-BOX)	V	12
Consumption	mA	140
Dimensions (l x p x h)	mm	110 x 90 x 25
Operating temperature	°C	+5 to +50
Weight	g	100

Telephone diallers

GSM module **MOD-GSM**

GSM module for extending the communication of CT-BUS dialler to the GSM network for having a dialler functioning both on PSTN and GSM line. It allows the management of the system and the send of alarms by SMS text.

It can be installed within the control panel or remotely within the optional box MOD-BOX.

MOD-GSM



Main characteristics

- Antenna integrated
- Monitoring and information about GSM signal
- Check of residual credit and SIM expiration
- 8 telephone numbers for sending vocal messages and text SMS messages
- Remote management by sending SMS text: activation/ disactivation of the system and oh the output
- It allows the expansion of the CT-BUS channels from 32 to 40

Item code			MOD-GSM 910307
Power supply and consumption			
Power supply voltage (from CT-BUS)		V	12
Current consumption	min/max	mA	110/500
Dimensions (l x p x h)		mm	65x55x20
Operating temperature		°C	0 to +40
Weight		g	40

Accessories

Boxes

Item	code	Description	
MOD-BOX	910312	Plastic box for the housing of remote modules and telephone dialler. It's protected against cover opening and wall removal by KIT-TAMPER, code 910314. (Dimensions: 202x160x65 mm)	
CE64BOX	916001	Steel box for 2 remote expander modules M8IBUS and/ or M8UBUS. Protected against cover opening and wall removal. (Dimensions: 180x205x57 mm)	
BXCH	916081	Steel box with steel lock for the protection of electronic keys readers.	

Defender Wired

Wired kits

K-DEFENDER8/IR EXP, 12/IR EXP and 12/DT EXP

Security system kits realized with control panels DEFENDER 8 EXP and DEFENDER 12 EXP.

Suitable for small sized system, the kits are available with infra-red detectors or double technology and are expandable to fit every demand of installation.

Kit composition:

K-DEFENDER8/IR EXP (code 910210)

1 control panel DEFENDER 8 EXP (code 910201)

2 infra-red detector IR900 (code 999741)

1 outdoor siren SEL80W (code 910305)

1 kit keys CHBUS-KIT (code 911032)



K-DEFENDER12/IR EXP (code 910209)

1 control panel DEFENDER 12 EXP (code 910202)

4 infra-red detector IR900 (code 999741)

1 outdoor siren SEL80W (code 910305)

1 kit keys CHBUS-KIT (code 911032)



K-DEFENDER12/DT EXP (code 910208)

1 control panel DEFENDER 12 EXP (code 910202)

4 infra-red detector double technology DT900 (code 999743)

1 outdoor siren SEL80W (code 910305)

1 kit keys CHBUS-KIT (code 911032)



Wired kits

K-DEFENDER64/IR, 64/DT and 64/CT

Kits for wired security system with control panel DEFENDER 64.

They are suitable for medium-large sized installations; they are available with infra-red detectors, double technology detectors or with dialler CT-BUS EXP.

The kits are expandable to match any kind of requirement.

Kit composition:

K-DEFENDER64/IR (code 910394)

1 control panel DEFENDER 64 (code 910303)

1 keyboard T8N (code 910306)

5 PIR detectors IR900 (code 999741)

1 outdoor siren SEL80W (code 910305)



K-DEFENDER64/DT (code 910395)

1 control panel DEFENDER 64 (code 910303)

1 keyboard T8N (code 910306)

5 PIR detectors double-technology DT900 (code 999743)

1 outdoor siren SEL80W (code 910305)



K-DEFENDER64/CT (code 910396)

1 control panel DEFENDER 64 (code 910303)

1 keyboard T8N (code 910306)

1 dialler CT-BUS EXP (code 910204)



Wired devices

Indoor volumetric detectors

Infra-red detector **IR900**

IR900 is a passive infra-red detector, with bracket, with calculation of the amplification of the signal pyroelectric with double element. It guarantees a total immunity to false alarms.

IR900



Adjustable bracket included

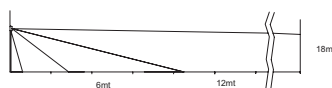
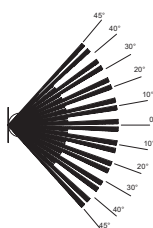
Main characteristics

- Coverage 15m
- Protection against opening and creep zone
- Volumetric Fresnel lens, 31 beams on 5 levels
- Adjustable bracket included, with internal cable gland
- "Walk test" function
- ABS box, wedge closing without using screws

Item code			IR900 999741
Coverage	length	m	15
	width	°	90
Pyroelectric		elements	2
Lens		beams	31
		levels	5
Temperature compensation		availability	No
Anti-opening		availability	Yes
Creep-zone protection		availability	Yes
Memory of alarms		availability	No
LED walk test		availability	Yes
Alarm contact		mA, Vcc	0,2-24
Tamper contact		mA, Vcc	40, 30
Pulse count		cont/sec	-
Protection RFI		V/m, MHz	10, 20-1000
Power supply and consumption			
Voltage		V	9-15
Consumption		mA	10
Characteristics			
Housing		box	ABS
Dimensions (lxdxh)		mm	110x60x46
Operating temperature		°C	+5 to +40
Weight		kg	0,122
Compliance			CEI 79-2:1998+AB:2000 (1°lev.)

Coverage diagram of the lenses

IR900



Indoor volumetric detectors

Infra-red detector **IR1000**

IR1000 is a digital infra-red detector with micro-processor, with bracket included. Thanks to a new system of signal elaboration (coming from pyroelectric at 2 elements), it can guarantee a length coverage beyond 18m and a width coverage beyond, assuring a total immunity against false alarms. It has a sensitivity regulator to set the sensitivity between 3 to 18m; it has a counter with double pulse, with a time slot of 5", that can be useful in case of installations that need an higher level of protection.



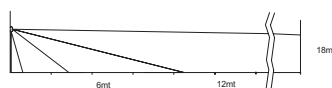
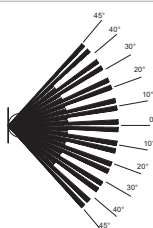
Main characteristics

- Digital technology with micro-processor
- Coverage adjustable between 3 and 18m
- Temperature compensation
- Pulse counter (2 pulses for 5")
- RFI noise protection
- Adjustable bracket included with internal cable gland
- Protection against opening and creep zone
- Volumetric Fresnel lens, 31 beams on 5 levels
- "Walk test" function
- ABS box, wedge closing without using screws

Item code			IR1000 999742
Coverage	length	m	3-18
	width	°	90
Pyroelectric		elements	2
Lens		beams	31
		levels	5
Temperature compensation		availability	Yes
Anti-opening		availability	Yes
Creep-zone protection		availability	Yes
Memory of alarms		availability	No
LED walk test		availability	Yes
Alarm contact		mA, V, Ω	100, 40, 16
Tamper contact		mA, Vdc	40, 30
Pulse count		cont/sec	2/5 (adjustable)
Protection RFI		V/m, MHz	10, 20-1000
Power supply and consumption			
Voltage		Vdc	9-15
Consumption	max	mA, Vdc	10, 13, 8
Characteristics			
Housing		material	ABS
Dimensions (lxdxh)		mm	110x60x46
Operating temperature		°C	+5 to +40
Weight		kg	0,122
Compliance			CEI 79-2:1998+AB:2000 (1°lev.)

Coverage diagram

IR1000



Wired devices

Indoor volumetric detectors

Double technology detector **DT360**

DT360

DT360 is a double technology detector: passive infrared and plane micro-wave . The detector operates in AND mode triggering an alarm only when both technologies are simultaneously activated. The elaboration of the signal by micro-processor and the automatic temperature compensation make the DT360 a reliable detector immune to false alarms.



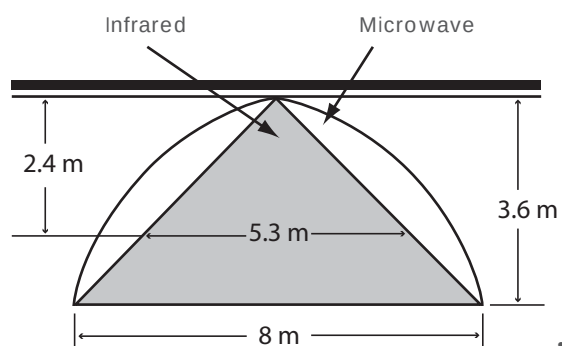
Main characteristics

- Advanced elaboration of the signal by micro-processor
- Regulation of the sensitivity
- Lens with optical filter for immunity to white-light up to 10.000 lux
- Functioning in AND mode
- Plane microwave with 10,5 GHz frequency
- Doppler effect and analysis of the detected signal
- Auto-compensation of the environmental temperature
- LED for the indication of the technology activated

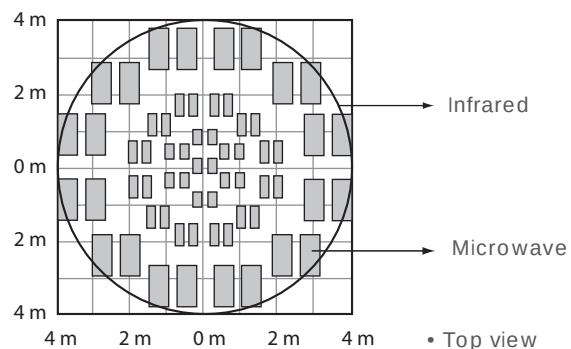
Item code		DT360 999889
Tamper contact		Contact NC max 28Vcc 100mA
Relay output		Adjustable NC/NO max 60Vcc 100mA
Height of installation	m	between 2.5 and 6
Type of installation		Ceiling
LED indication		Green: infra-red detection Yellow: micro-wave detection Red: alarm
Microwave antenna		Plane antenna
Microwave frequency	GHz	10.5
Pre-heating time	sec	< 60
Voltage	Vcc	9 - 16
Consumption	mA	< 18
Distance of detection		Diam. 8 mt installed at height 3.6 mt.
Coverage angle		360°ceiling installed
Infrared		pyroelectric 2 elements low noise
Dimensions(d x h)	mm	135x30
Operating temperature	°C	-10 to 50
Weight	kg	0.120
Compliance		EN50130-4; EN61000-6

Coverage diagram

DT360



• Side view



• Top view

Wired devices

Indoor volumetric detectors

Double technology detector **DT900**

DT900 is a double technology detector, one PIR with two elements and with plane micro-wave from 2,4 to 2,5 GHz. It has a coverage regulator that allows the setting of coverage between 3 and 15m.



Main characteristics

- Plane micro-wave with frequency 2,45 GHz
- Functioning in AND mode
- Digital technology with micro-processor
- Protection against opening and creep zone
- Temperature compensation
- RFI noise protection
- Adjustable bracket included with internal cable gland
- Infrared section: PIR 2 elements
- Volumetric Fresnel lens, 31 beams on 5 levels
- ABS box, wedge closing without using screws
- It's possible to install many detectors in the same place, without using additional cables for the programmation

Item code			DT900 999743
Coverage	length	m	15
	width	°	90
Pyroelectric		elements	2
Micro-wave		type	DRO
		GHz	2,45
Max micro-wave power		mW	10
Lens		beams	31
		levels	5
Alarm		type	AND
Temperature compensation		availability	yes
Anti-opening		availability	yes
Creep-zone protection		availability	yes
Memory of alarms		availability	no
LED walk test		availability	no
Alarm contact		mA, V, Ω	100, 40, 16
Tamper contact		mA, V	40, 30
Pulse count		V/m, MHz	10, 20-1000
Power supply and consumption			
Voltage		V	9-15
Consumption		mA	22
Characteristics			
Housing		material	ABS
Dimensions (lxdxh)		mm	110x60x46
Operating temperature		°C	+5 to +40
Weight		kg	0.122
Compliance			CEI 79-2:1998+AB:2000 (1 ^o lev.)

Indoor volumetric detectors

Double technology detector **DT1000**

DT1000 is a double technology detector, one PIR with two elements with temperature compensation. The micro-wave section is plane with emission pulsed in X band.

It can be used in three different configurations: AND, the detector trigger an alarm when both technology are simultaneously activated (high immunity to false alarms); OR, the detector trigger an alarm when just one technology is activated; OR AUTO, that means normally AND functioning e check of the consecutive alarms coming from each technology.



Main characteristics

- Plane micro-wave section with pulsed emission (10,4GHz)
- Functioning in AND - OR - OR AUTO mode
- Regulation of the micro-wave power
- Led for alarm memory (and jumper for disabling), indicating which technology has done the detection
- Digital technology with micro-processor
- Infrared section with PIR 2 elements
- Protection against opening and creep zone
- Adjustable bracket included with internal cable gland
- It's possible to install many detectors in the same place, without using additional cables for the programming
- Coverage adjustable between 3 and 15 m.
- Volumetric Fresnel lens, 31 beams on 5 levels
- "Walk test" function
- Temperature compensation
- RFI noise protection

Item code			DT1000 999744
Coverage	length	m	15
	width	°	90
Pyroelectric		elements	2
Micro-wave		type	DRO
		GHz	9,5-10,6
Micro-wave max power		mW	10 pulsed
Lens		beams	31
		levels	5
Alarm		type	AND - OR - OR AUTO
Temperature compensation		availability	No
Anti-opening		availability	Yes
Creep-zone protection		availability	Yes
Memory of alarms		availability	Yes
LED walk test		availability	Yes
Alarm contact		mA, V, Ω	100, 40, 16, 2.5
Tamper contact		mA, Vdc	40, 30
Protection RFI		V/m, MHz	30, 80-1000
Power supply and consumption			
Voltage		Vdc	9-15
Nominal voltage		Vdc	13,8
Consumption		mA	22
Characteristics			
Housing		material	ABS
Dimensions (lxdxh)		mm	110x60x46
Operating temperature		°C	+5 to +40
Weight		kg	0,122
Compliance			CEI 79-2:1998+AB:2000 (1°lev.)

Wired devices

Indoor volumetric detectors

Double technology detector **DT1000AM**

DT1000AM is a double technology detector with anti-masking function managed by micro-processor; the infrared section is made by one PIR with two elements and a plane micro-wave section, 10,4GHz.

It can be used in three different configurations: AND, the detector trigger an alarm when both technology are simultaneously activated (high immunity to false alarms); OR, the detector trigger an alarm when just one technology is activated; ANTIMASKING: it detects, nearby the detectors, every attempt of masking the micro-wave or the passive infra-red.



Main characteristics

- Plane micro-wave section with pulsed emission (10,4GHz)
- Functioning in AND - OR - ANTI-MASKING
- Regulation of the micro-wave power
- Timer for blocking the micro-wave emission when the system is off
- Anti-masking dedicated contact
- Led for alarm memory (and jumper for disabling), indicating which technology has done the detection

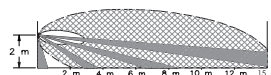
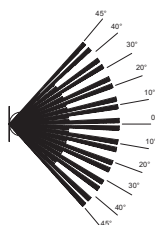
Other characteristics

- Protection against opening and creep zone
- Digital technology with micro-processor
- It's possible to install many detectors in the same place, without using additional cables for the programmation
- Anti-masking dedicated contact, to differentiate the type of alarm
- Adjustable bracket included with internal cable gland
- Infrared section: PIR 2 elements
- Coverage adjustable between 3 and 15 m.
- Volumetric Fresnel lens, 31 beams on 5 levels.
- "Walk test" function
- ABS box, wedge closing without using screws
- Temperature compensation
- RFI noise protection

Item code			DT1000AM 999745
Coverage	length	m	15
	width	°	90
Pyroelectric		elements	2
Micro-wave		type	DRO
		GHz	10,4
Micro-wave max power		mW	10
Lens		beams	31
		levels	5
Alarm		type	AND - OR - ANTI-MASK
Temperature compensation		availability	Yes
Anti-opening		availability	Yes
Creep-zone protection		availability	Yes
Memory of alarms		availability	Yes
LED walk test		availability	Yes
Alarm contact		mA, V, Ω	100, 40, 16
Tamper contact		mA, V	40, 30
Protection RFI		V/m, MHz	10, 20-1000
Power supply and consumption			
Voltage		V	9 - 15
Consumption		mA	26
Characteristics			
Housing		material	ABS
Dimensions (lxdxh)		mm	110x60x46
Operating temperature		°C	+5 to +40
Weight		g	0,122
Compliance			CEI 79-2:1998+AB:2000 (1°lev.)

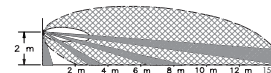
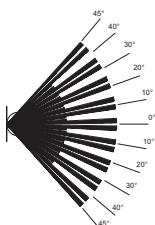
Coverage diagram

DT900



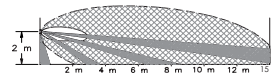
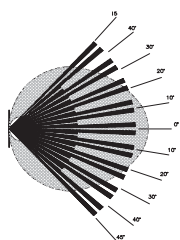
Coverage diagram

DT1000



Coverage diagram

DT1000AM



Wired devices

Indoor perimeter detectors

Infra-red **TEATRÒ**

TEATRÒ is a passive infra-red detector that can create a "curtain" protection suitable for doors, windows and everywhere it's needed the detection of a movement coming from just one direction.



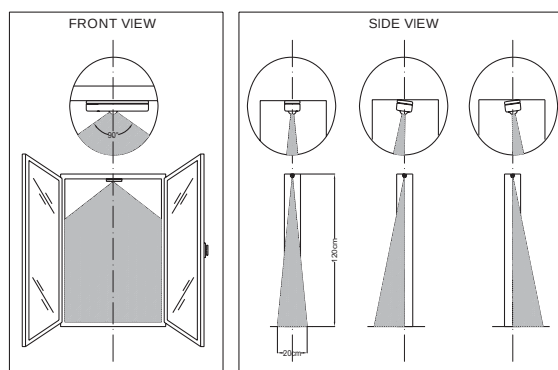
Main characteristics

- Protection against opening, removal and creep zone
- Input for blocking the detector when the system is off
- Additional alarm contact
- Internal buzzer for the function "chime" when the system is off (the function can be disabled by dip switch)
- Relay output for alarm signalling when the system is off (function remote "chime")
- Led for signalling and alarm memory (the function can be disabled by dip switch)
- "Walk test" function

Item code			TEATRÒ 999746
Coverage	length	m	1-2.5
	width	°	90
Pyroelectric		elements	2
Temperature compensation		availability	No
Anti-opening		availability	Yes
Creep-zone protection		availability	Yes
Memory of alarms		availability	Yes
LED walk test		availability	Yes
Alarm contact		mA, V, Ω	100, 40, 16
Tamper contact		mA, V	40, 30
Power supply and consumption			
Voltage		V	9-15
Consumption	max	mA	25
Characteristics			
Housing		material	ABS white
Dimensions (lxdxh)		mm	150x40x35
Compliance			CEI 79-2:1998+AB:2000 (1°lev.)

Coverage diagram

TEATRÒ



Indoor perimeter detectors

Infra-red double technology **TEATRÒ DT**

TEATRÒ DT is a passive infra-red detector double-technology that can create a "curtain" protection suitable for doors, windows and everywhere it's needed the detection of a movement coming from just one direction.

TEATRÒ DT



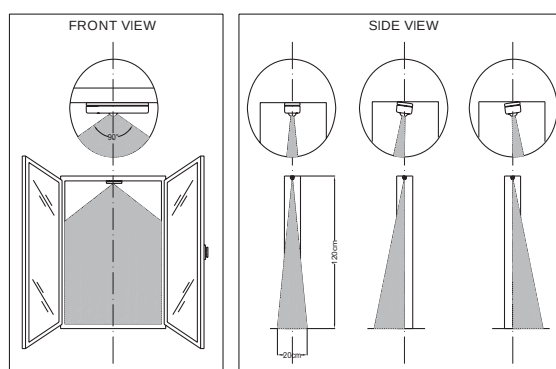
Main characteristics

- Protection against opening, removal and creep zone
- Functioning in AND mode
- Different micro-wave frequencies
- "Walk test" function

Item code			TEATRÒ DT 999749
Coverage	length	m	1-5
	width	°	90
Pyroelectric		elements	2
Micro-wave		Type	2
		GHz	45
Micro-wave max power		mW	10
Temperature compensation		availability	No
Anti-opening		availability	Yes
Creep-zone protection		availability	Yes
Memory of alarms		availability	Yes
LED walk test		availability	Yes
Alarm contact		mA, V, Ω	100, 40, 16
Tamper contact		mA, V	40, 30
Power supply and consumption			
Voltage		V	9-15
Consumption	max	mA	25
Characteristics			
Housing		material	ABS white
Dimensions (lxdxh)		mm	150x40x35
Compliance			CEI 79-2:1998+AB:2000 (1° lev.)

Coverage diagram

TEATRÒ DT

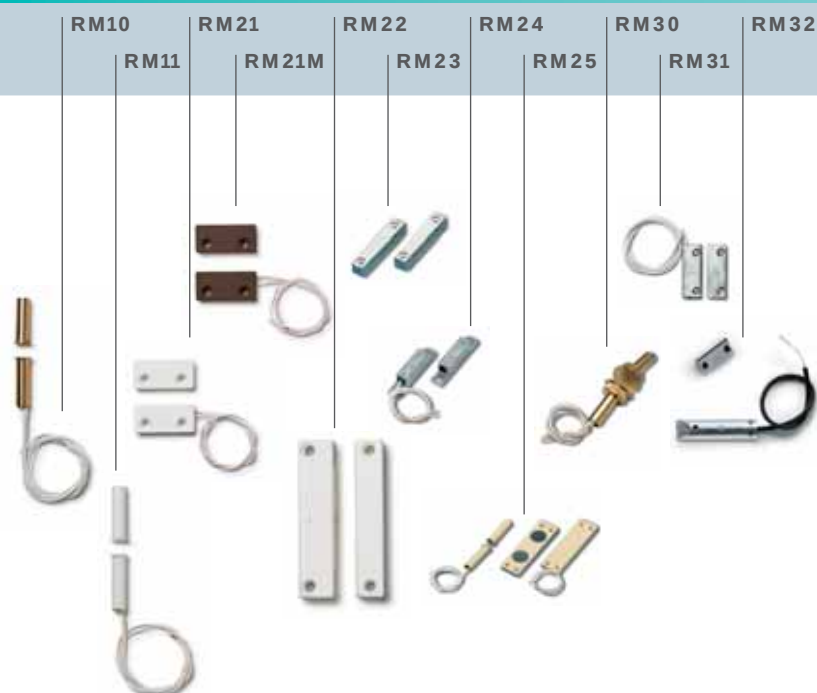


Wired devices

Indoor perimeter detectors

Magnetic RM series

Magnetic contact for flush or surface mounting, suitable to create a perimeter protection; they are composed by one reed and one magnet.



code	Description	Conductors no.	Dimensions (lxdxh) mm	Average functioning distance mm	Box pieces	Weight kg
RM series						
RM10	920039 Magnetic contact for flush mounting cylindrical brass housing	4	Ø7,5x25	12	1	0,010
RM11	920040 Magnetic contact for flush mounting cylindrical brass housing	4	Ø 8x30	12	1	0,010
RM11NA	999812 Magnetic contact for flush mounting cylindrical plastic housing, Normally Open contact	4	Ø 8x30	12	1	0,018
RM21	920042 Magnetic contact for surface mounting rectangular plastic housing	2	8x15x32	15	1	0,010
RM21M	999787 Magnetic contact for surface mounting rectangular brown plastic housing	2	8x15x32	15	1	0,010
RM22	920043 Magnetic contact for surface mounting rectangular plastic housing	terminals	13x13x60	15	1	0,010
RM23	999079 Magnetic contact for surface mounting rectangular plastic housing	terminals	9,5x11x51	12	1	0,014
RM24	999080 Magnetic contact for surface mounting rectangular alluminium housing	2	8,5x12x46	13	1	0,035
RM25	999082 Magnetic contact for surface mounting rectangular plastic housing	2	5x20x67	12	1	0,024
RM30	999081 Magnetic contact for flush mounting cylindrical brass housing, high-power, suitable for metallic frames	4	Ø10-20x33	12	1	0,014
RM31	920044 Magnetic contact for surface mounting rectangular alluminium housing, high-power, suitable for metallic frames	4	13x19,5x58	20	1	0,180
RM32	920045 Magnetic contact for surface mounting, rectangular die-cast aluminium housing, suitable for drive-way	4	12x41x15	25	1	0,335

Other detectors

Blind and shutter detectors

RF45: Wire detector for shutter protection. It has a spool with around 3mt wire, to be mounted within the chest; the eyelet must be fixed at the end of the shutter. The course of the wire cause the opening and closing of the contact. It can be connected to the input lines of the control panels using the BUS connection.

RS44: Mechanical contact with bar movement suitable for shutter protection.



Detector	code	Dimensions mm	Box pieces	Weight kg
RF45 wire	920041	lxdxh: 15x90x100	1	0,124
RS44 bar	999083	box: 55x32 bar: 400	1	0,084

Other detectors

Vibration and inertial detectors

RH-40: Detector with mercury cruet, NC contact in a plastic housing, cable with 4 conductors. Possibility of sensitivity adjustment, simply turning the position of the cruet.

RV51: Mechanical detector with Normally closed contact in a cylindrical plastic housing with a device for auto-protection. Conductor connection to be soldered.

RI55: Inertial vibration housing in a plastic housing with holes for surface mounting. The sensitive elements are gilded to make the product really reliable. Cable with 4 conductors: 2 for the contact, 2 as protection against cable cutting. Suitable for windy surfaces or nearby to high-traffic routes. It can be connected to the input lines of the control panels using the BUS connection.



Vibrations Detector	code	Dimensions mm	Box pieces	Weight kg
RH-40	920046	Ø34x14	1	0,028
RV51	999077	lxdxh: 12x22x60,5	1	0,027
RI55	920048	lxdxh: 33x33x24	1	0,045

Wired devices

Other detectors

Liquid detector **RL1**

Detector that signalizes the presence of liquids by terminals soldered to the tracks of the circuit or by an area of the circuit with tracks uncovered.

The detection is immediate when a veil of liquid connect the terminals put on the floor.

In case of humid floors or with sporadic presence of liquids it's better to insulate the terminals and use the system of detection by uncovered tracks.

The board is 7 mm lifted from the hold of the terminals.



RL1

Item code			RL1 999149
Relay contacts	NC-NO	A, V	1, 30
Power supply and consumption			
Voltage		V	12-24
Consumption		mA	30-40
Characteristics			
Housing		material	white ABS
Dimensions (lxdxh)		mm	95x64x25
Operating temperature		°C	-10 to +60
Weight		g	160

Other detectors

Anti robbery button **HB194**

Anti-robbery button with manual re-arm, double contact normally closed and mechanical memory of intervention.

Codice 999040



HB194

Other detectors

Smoke detector RF4-R

The smoke detector RF4 reacts to the presence of visible smokes caused by a combustion.

The principle of functioning is based on the technique of light dispersion (Tyndall effect).

The detectors has the test function by an internal reed. To perform the test, near a magnet to the reed.

Attention: this operation can just simulate an alarm but cannot check the proper functioning of the detector.

It has a relay for connection to anti-intrusion alarm system.

RF4-R



Main characteristics

- Functional test by magnetic reed
- Indication of functioning, alarm
- Detector supplied with Relay for interfacing.

Item code			RF4-R 920166
Voltage		Vdc	12
Consumption	stand-by alarm	μA mA	50 25
Characteristics			
Protection		grade	IP20
Dimensions Ø		mm	110x52
Humidity		%	93
Operating temperature		°C	-5 to +70
Weight		kg	0,160

Other detectors

Smoke detector thermal velocimetry TV4-R

Temperature detector that can detect an increase of the temperature beyond the threshold set or a sudden temperature increase in a short time (even without pass the threshold).

It has a relay for connection to anti-intrusion alarm system.

TV4-R



Main characteristics

- Functional test by magnetic reed
- Indication of functioning, alarm
- Detector supplied with base

Item code			TV4-R 920167
Voltage		Vdc	12/11-15
Consumption	stand-by alarm	μA mA	50 25
Characteristics			
Protection		grade	IP20
Humidity		%	93
Operating temperature		°C	-5 to +70
Dimensions (with base Ø, h)		mm	110x61

Wired devices

Outdoor detectors

Micro-wave barriers **MC40EX** and **MC70EX**

MC40EX
MC70EX

Micro-wave barrier for outdoor protection, both industrial and residential environment.

It's suitable for the protection of large corridors, balconies, galleries, porches, scaffolds.

MC40EX and **MC70EX** barriers are made of 2 elements, one transmitter and one receiver, that when placed opposite made a lobe for detecting the attempts of intrusion.



Main characteristics

- 4 commuting channels
- Wall mounting
- 2 output in case of alarm or tampering
- Within the transmitter and receiver there are:
 - one normally closed contact without volt against the opening of the housing and for alignment of the device
 - one normally closed contact without volt for the alarm "oscillator fault"

Item code			MC40EX 999891		MC70EX 999982	
Power supply and consumption						
Voltage		V	13,8			
Consumption	Tx+Rx	mA	70			
Characteristics						
Coverage		m	40	70		
Housing protection		grado	IP55			
Dimensions		mm	125x125x50			
Operating temperature		°C	-25 to +55			
Weight		g	420			
Compliance			CEI 79.2 - 3°lev.			

Accessories	code	Description
STC95	999921	Device for check and calibration

Outdoor detectors

Micro-wave barriers **MC200EX**

Micro-wave barrier for outdoor protection, coverage 200 m.

It's suitable for the protection of large corridors, balconies, galleries, porches, scaffolds.

Micro-wave barrier are made of 2 elements, one transmitter and one receiver, that when placed opposite made a volumetric protection for detecting the attempts of intrusion.

Since it's designed for outdoor installations it can fit with every climatic condition. It has regulations for discriminate the target and has 4 channels to avoid interferences in the lobe match point.

The bi-static system makes impossible the masking of the detector and guarantees protection against tampering.

MC200EX



Main characteristics

- Fully protected against weather conditions.
- It has an untied back plate for wall mounting
- 2 output in case of alarm or tampering
- 4 commuting channels
- Regulation of sensitivity and integration

Item code			MC200EX 999890
Power supply and consumption			
Voltage		V	13,8
Consumption	Tx+Rx	mA	200
Characteristics			
Coverage		m	200
Housing protection		degree	IP55
Dimensions		mm	125x125x50
Operating temperature		°C	-25 to +55
Weight		g	4000
Compliance			CEI 79.2 – 3° lev.

Accessories	code	Description
STC95	999921	Device for check and calibration

Wired devices

Outdoor detectors

Infra-red barriers **BL-NEW**

The barriers with active infra-red beams **BL-NEW** are realized for the protection of passages, internal and external windows in protected positions of different height and length.

They are made of 2 elements on mechanical frame, one transmitter and one receiver, that will be installed opposite.

In order to guarantee the protection to false alarms caused by small-sized objects (e.g. insects), every receiver check both the opposite beam and diagonal one.

Available also in white housing.



Main characteristics

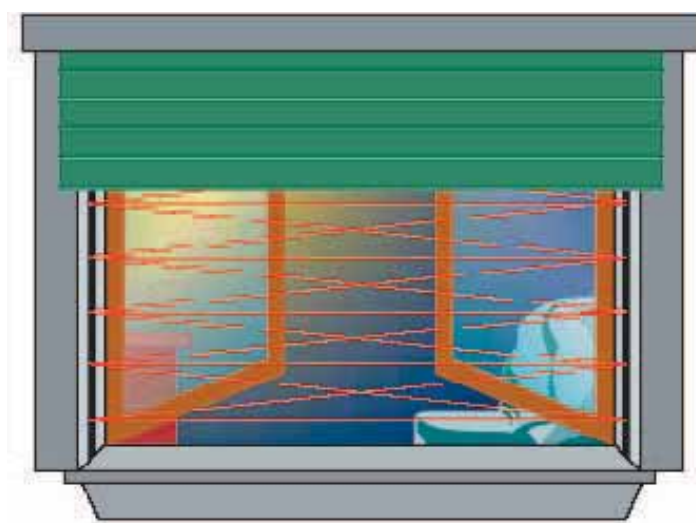
- Transmitter and receiver checked by 2 micro-processor
- 5 bit codes transmission every 20-50ms to avoid attempts of masking by using false transmitter
- Modulation of optical transmission at 36kHz and opaque polycarbonate filter to avoid natural/ artificial light noise
- Check of diagonal rays to avoid false alarms caused by insects or small objects placed in front of transmitter/ receiver
- Optical synchronism without additional wires
- Creep-zone selectable and adjustable
- Magnetic selectable protection against opening and removal
- Relay output for alarm signalling
- LED for signalling the quality of reception
- Buzzer selectable
- All settings selectable by dip-switch

Item code			BL50-NEW/M 999510	BL100-NEW/M 999508	BL200-NEW/M 999509
Power supply and consumption					
Voltage		V	11 to 14		
Consumption		mA	45	65	65
Characteristics					
Colour		Material	brown aluminium and PVC		
Rays		no.	2	4	8
Distance between rays		cm	25		
Environmental conditions	certificated	°C	-5 to +55		
	operative		-30 to +55		
Creep-zone protection		availability	yes		
Anti-opening		availability	yes		
Anti-removal		availability	yes		
Coverage in normal conditions	min-max	m	0,5 to 12	0,5 to 20	0,5 to 20
Coverage in sunny environment		m	0,5 to 4	0,5 to 6	0,5 to 6
Relay	alarm	no.	1		
	tamper		1		
Dimensions		mm	530x25x19	995x25x19	1925x25x19
Compliance			CEI 79-2 2°ed. 1993		

Item code			BL50-NEW/B 999105	BL100-NEW/B 999106	BL200-NEW/B 999107
Power supply and consumption					
Voltage		V	11 to 14		
Consumption		mA	45	65	65
Characteristics					
Colour and material			white aluminium and PVC		
Rays		no.	2	4	8
Distance between raysi		cm	25		
Environmental conditions	certificated	°C	-5 to +55		
	operative		-30 to +55		
Creep-zone protection		availability	yes		
Anti-opening		availability	yes		
Anti-removal		availability	yes		
Coverage in normal conditions	min-max	m	0,5 to 12	0,5 to 20	0,5 to 20
Coverage in sunny environment		m	0,5 to 4	0,5 to 6	0,5 to 6
Relay	alarm	no.	1		
	tamper		1		
Dimensions		mm	530x25x19	995x25x19	1925x25x19
Compliance			CEI 79-2 2°ed. 1993		

Example of installation

BL-NEW



Wired devices

Outdoor detectors

Infra-red barriers **BIR20-2**

Barrier with linear active infra-red, composed of a TX and an RX. They work in AND mode, triggering an alarm when both beams are interrupted. They are suitable for protect large distances, both outdoor and indoor. The alignment is controlled by led or tester, so the installation is very easy.

BIR20-2



Main characteristics

- Outdoor coverage up to 100mt
- Indoor coverage up to 300mt
- Regulation of the reaction time to the violation: 50-700 msec
- Control of the alignment by led or tester
- Horizontal and vertical regulation of the beams
- Wall or pole mounting
- Led for walk test
- Regulation of the sensitivity for choosing the time duration that have to lack to the receiver to be consider as alarm
- IP65

Item code			BIR20-2 999150
Outdoor coverage	m		100
Indoor coverage	m		300
Rays characteristics			Double pulsed infra-red ray
Activation time	msec		50 – 700 (adjustable)
Voltage			12 – 24 Vdc 11-18 Vac
Consumption	mA		65 max
Duration alarm	Sec.		2 (±1)
Alarm output			NO – NC (AC/DC 30V 0.5A max)
Tamper contact			NO (NA with open cover)
Operating temperature	°C		-25 to +55
Operating humidity			95% max
Alignment angle			±5 vertical - ±90 horizontal
Mounting			Wall or pole
Weight	g		300 (TX + RX)

Outdoor detectors

Infra-red barriers serie **BIR**

Barrier with linear active infra-red, composed of a TX and an RX; They are suitable for protect large distances, both outdoor and indoor, since they are designed following the most advanced technology they guarantee both an high protection level and high immunity to false alarms. The BIR series has a very easy installation thanks to the double system of alignment.



Main characteristics

- Outdoor coverage up to 150 m
- Simply installation by alignment with acoustic (BUZZER) and optical signal (LED or TESTER), without using additional wires
- Wall or pole mounting
- It has thermal resistors to operate properly even in the most critical weather conditions

Other characteristics

- Detection system adjustable in 3 modes: crossed rays; double ray; single ray
- Transmission power adjustable to optimize the consumption when the barriers are placed very close.
- Anti-masking system (with dedicated output)
- Open-collector output to signalize the disqualify mode (gradual reduction of the infra-red caused by weather conditions)
- Regulation of the reaction time to the violation from 50 msec to 1 sec
- Regulation of the sensitivity for choosing the time duration that have to lack to the receiver to be consider as alarm

- Possibility of vertical (+/-15°) and horizontal (+/-90°) alignment of the beams (for example to increase the coverage distance or to protect complete perimeter)
- Possibility of functioning in disqualify mode with adjustment of the sensitivity
- Protection against opening, removal, masking

- Regulation of the sensitivity : percentage of infra-red signal that have to lack to the receiver to be consider as alarm (from 10% to 100%). This setting allows a tuning of the system that guarantees an optimal compensation of atmospheric events that can reduce the sensitivity (fog, light on the receiver, dust on the cover)
- Thermal regulation distributed to the whole barrier: each optic and base are autonomously thermal regulated to avoid moisture amass on the surface
- Possibility of separate power supply for barriers and heater

Item code			BIR50-2 999124	BIR100-3 999125	BIR150-4 910351	BIR200-6 999126
Power supply and consumption						
Voltage		V	9 - 15	9 - 15	9 - 15	9 - 15
Consumption	Max barrier (RX+TX)	mA	95	125	135	155
	Max heater (RX+TX)		440	660	880	1320
Characteristics						
Coverage max	outdoor	m	150	150	150	150
Coverage min	outdoor	m	2	3 - 4	3/4	5
Alarm contact		A, V	2, 40	2, 40	2, 40	2, 40
Tamper contact		A, V	2, 40	2, 40	2, 40	2, 40
Material	base		Aluminium	Aluminium	Aluminium	Aluminium
Material	cover		Plexiglass	Plexiglass	Plexiglass	Plexiglass
Protection		degree	IP64	IP64	IP64	IP64
Dimensions		mm	65x60x50	65x60x100	65x60x150	65x60x200
Operating temperature		°C	-24 to +60	-24 to +60	-24 to +60	-24 to +60
Weight		g	1.7	4.2	6.1	8

Accessories	code	Description
BIR-M	999135	Steel support for 90° wall mounting (distance from wall 10cm, angle 90°, internal cable passage)
BIR-C	999127	Steel stirrup for floor mounting of the barrier of the BIR series

Wired devices

Outdoor detectors

Double-infrared detector **2IR-EX12**

Based on technology of multiple beams, the outdoor detector 2IR-EX12 uses 2 detection beams wide angle (110°).

The integrated micro-processor performs an advanced analysis of the signal detected.

It operates in AND mode triggering an alarm when both beams (lower and upper) are simultaneously interrupted.

This reduce the possibility that external phenomena such as temperature changes, reflection of light or small animals cause false alarms.



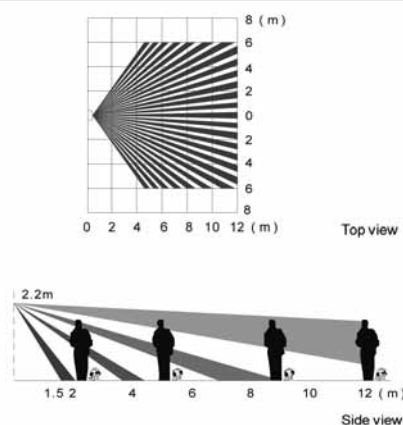
Main characteristics

- Advanced signal elaboration by microprocessor
- Adjustment of the sensitivity
- Lens with optical filter that guarantees immunity to white light up to 10.000 lux
- Sealed detector for outdoor use
- Immunity to insects
- Easy wall and angle mounting by bracket supplied
- Walk test disactivable
- Auto-compensation of the temperature
- PET-IMMUNITY to discriminate pet with mass <20kg
- IP 54

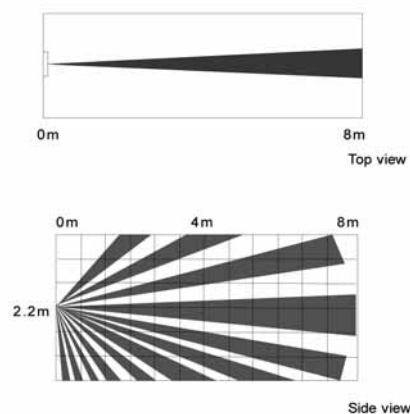
Item code		2IR-EX12 999774
Voltage	Vcc	9-16
Consumption	mA, Vcc	<28, 12
Coverage	m	Lens wide angle 12
Coverage angle		Lens wide angle 110°
Infra-red		Pyroelectric 2 elements low noise
Pre-heating time	sec	<60
Pulse counter		Lens wide angle 1P adjustable to 2 P
Mounting		Wall
Mounting heigth	m	Optimal: 2,2
Operating temperature	°C	-10 to +50
Relay output	Vcc, mA	Adjustable NC/ NO coverage max, 28 80
Tamper contact	Vcc, mA	Contact N.C. coverage max 28 100
Dimensions	mm	150x73x48
Compliance		CEI 79.2 - 1°lev.

Coverage diagram of the lens wide angle

2IR-EX12



Coverage diagram of the lens curtain effect



Outdoor detectors

Infrared detector **IR-EX24**

IR-EX24

The **IR-EX24** is different from traditional detectors since it has a double conductor that perform high reliability to false alarms caused by sun rays.

Pet Alley" mode allows to small sized animals to circulate in the protected area



Main characteristics

- Immunity to white light (up to 50000 lux)
- Thermic compensation
- Multi-level detection or "Pet Alley"
- Long distance coverage
- 3 levels of settings
- Pulse counter
- Day/ night setting
- Walk-Test

Item code			IR-EX24 999676
Coverage	length	m	24
	width		2
	angle	°	long distance
Zones covered	multiray	no.	12
	Pet Alley		4
Mounting height	multiray	m	2,5
	Pet Alley		1,2 – 1,5
Detectable movement		m/sec	0,3 – 1
Regulation of the sensitivity			deviator 3 positions
LED	during detection		on
Alarm duration		sec	2,0±1,0
Output alarm		type	relay volt free
		V, A	28, 0,2
Pulse counter		cont/sec	2 in pos. 2,1 in pos. test
Regulation photocell		lux	10-100000
Pre-heating time		sec	60
Power supply and consumption			
Voltage		V	12
Consumption		mA	25
Characteristics			
Protection		degree	IP54
Dimensions		mm	72x135x60
Operating temperature		°C	-20 to +50
Humidity		%	95
Weight		g	190

Accessories	code	Description
SND-EX	999677	Wall bracket

Wired devices

Outdoor detectors

Double-technology detector **DT-EX12**

Based on double technology, the outdoor detector **DT-EX12** uses a micro-wave and a passive infra-red.

The integrated microprocessor performs an advanced analysis of the signal detected.

The sensor operates in AND mode and generates an alarm signal when both technologies are simultaneously activated.

This allows the protection of outdoor spaces even in critical conditions, minimizing the possibility that change of temperature, light reflections or presence of small animals can cause false alarms.



Main characteristics

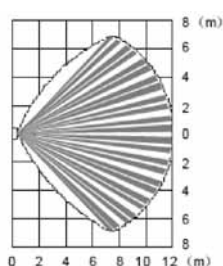
- Advanced signal elaboration by microprocessor
- Sensitivity adjustable
- Lens with optical filter that guarantees immunity to white light up to 10.000 lux
- Sealed detector for outdoor use
- Microwave with Doppler effect and analysis of the detected signal
- Immunity to insect
- Microwave frequency 10,4 GHz
- Auto-compensation of temperature
- PET-IMMUNITY function to discriminate the passage of pets with mass lower than 20Kg
- LED for identification of which technology is activated
- Protection degree IP 54

Item code		DT-EX12 999888
Tamper contact		Contact NC max coverage 28Vcc 100mA
Relay output		Programmable NC/NA portata max 28Vcc 80mA
Mounting height	m	Optimal height 2,2 mt
Installing	type	wall mounting
Led Indications		Green: infra-red detection Yellow: micro-wave detection Red: alarm
Microwave antenna		Antenna Patch type
Microwave frequency	GHz	10.525
Pre-heating time	sec	< 60
Power supply voltage	Vcc	12
Current consumption	mA	< 30
Detection distance	m	12 x12
Coverage angle		110°
Infra-red		pyroelectric 2 elements low noise
Dimensions (lxdxh)	mm	153x80x58
Operating temperature	°C	-40 to +70
Weight	g	0.300
Compliance		CEI 79.2 - 1°level

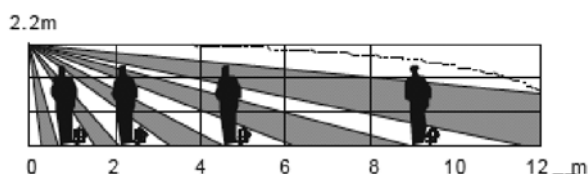
Accessories	code	Description
SND-DT	999732	Adjustable bracket with passage for cables

Coverage diagram

DT-EX12



• Top view



• Side view

Outdoor detectors

Double-infrared detector **BX_80N**

Based on technology of multiple beams, **BX_80N** uses two detection beams on both sides.

It operates in AND mode triggering an alarm when both beams (lower and upper) are simultaneously interrupted.

This reduces the possibility that external phenomena such as temperature changes, reflection of light or small animals cause false alarms..

BX_80N creates an horizontal barrier multi-ray of 12m on 2 sides.

Mounted in the middle of the place to be protected it guarantees a coverage 24m.



Main characteristics

- 2 sensitive elements
- 2 output
- Acoustic alarm signalisation
- Function to reduce the coverage
- Function of recognizing by size
- Anti-opening NC that opens when the cover is removed
- Walk-test
- Acoustic power around 70dB at 1mt
- Immunity to RFI noise up to 20V/m
- Wall mounting (indoor/ outdoor)
- Mounting height from 0,8 m to 1,2 m
- Accessories: 2 fixing screws 4 x 20

Item code			BX_80N 999964
Coverage	one side	m	12
	total	m	24
Zones covered		no.	4 (2 for each side)
Mounting height		m	0,8 ~ 1.2
Detectable movement		m/sec	0,3 – 2,0
Regulation of the sensitivity			1.6°C a 0.6m/s
LED	during starting		blinking
	in alarm		On
Alarm duration		sec	2.0±1.0
Output alarm		tipo	2 N.C./N.A.
		V, A	28, 0,2 max
Pre-heating time		sec	45 (LED blinks)
Power supply and consumption			
Voltage		Vcc	10–28
Consumption	normal	mA	28
	max		38
Characteristics			
Protection		grade	IP55
Dimensions		mm	280x115x79
Dimensions (Ø)		mm	0,58
Operating temperature		°C	-20 to +50
Humidity		%	95
Weight		g	400

Wired devices

Telephone diallers

PSTN dialler **CT4**

Telephone dialler **CT4** can transmit 4 different messages previously recorded via PSTN telephone line.



Main characteristics

- 4 alarm channels settable
- 4 telephone numbers, 20 digits each, for sending vocal messages

- Simply interface thank to keypad and LED display a
- Sending vocal message via PSTN line

Other characteristics

- Possibility to receive the calls on a number different from those memorized
- Recording of 4 vocal messages, 10 seconds each, one for every channel and a common message of 20 seconds for record the address
- Management of alarm activation delay
- Alarm block from control panel
- 9V alkaline battery
- Programming of the cycles of call from 1 to 4
- Programming of the repetition of the message from 1 to 9

- Automatic procedure for line unlocking
- Recognizing of busy number and successful call
- Block of the calls by DTMF code 1 digit
- Functional test
- Programmation: by user code or mechanical key
- Selection: decadic or multi-frequency
- Microphone and loudspeaker integrated for recording and listening to messages
- Memorization of all set parameters
- Protection against opening and wall removal
- Relay volt free for check telephone line faults

Item code			CT4 999608
Input		no.	4
Output		no.	1
Power supply and consumption			
Power supply voltage		V	12
Battery (if installed)		V	9
		type	alkaline
Consumption	min	mA	50
	max		140
Characteristics			
Dimensions (lxdxh)		mm	130x180x45
Operating temperature		°C	0 to +40
Weight		kg	0.5

Telephone diallers

Digital dialler **CT-PRO**

CT-PRO

CT-PRO is a digital telephone dialler with vocal guide integrated; it transmits, via PSTN line, information about the alarms.

CT-PRO can communicate both by previously recorded messages and by digital protocols.

It allows the management of all anti-intrusion systems.

It can be installed within the MOD-BOX or within the Defender WL control panel.

CT-PRO can be integrated with additional module MOD-GSM to extend the communication also on GSM line.

By using MOD-GSM it's possible to use SMS text for sending alarms, programming and remote managing.



Main characteristics

- 4 alarm input, 2 output; 1 terminal that can be programmed as status/ output
- Transmission of alarms by digital protocols Fast Format and Contact ID
- Alarm vocal messages, that can be customized by internal dictionary
- 21 channels of alarm freely programmable
- Phone log with 64 telephone numbers freely linkable to the channels

- Setting modes:
 - By telephone with buttons, with DTMF tones following the instruction of the vocal guide.
 - By SMS (with optional MOD-GSM)
- Possibility of extension to GSM network, by MOD-GSM (optional)
- Possibility of choice between full and basic programming (using default settings).

Other characteristics

- Managing of the alarm delay activation
- Recognition of busy number and successful call
- Internal dictionary of around 300 words
- Duration of messages: 8 seconds
- Remote management via DTMF tones: it allows arming and disarming of the system (mode total or partial), knowing the status of the system and output, activate and deactivate output
- SMS text remote controlling (with optional MOD-GSM)
- Programming cycles of calls: from 1 to 4
- Programming of the repetition of the message: from 2 to 9
- Sending vocal messages via PSTN line

- SMS text alarm sending (with optional MOD-GSM)
- Block of call via DTMF code
- Possibility of limit the access in remote management just to numbers saved in the phone log
- Possibility to connect a battery
- Optional power supply
- Functional test
- Multi-frequency selection
- Memorization of all set parameters
- Alarm in case of false code and signalling in event memory
- 100 events log
- Led for status indication

Item code		CT-PRO 910319
Input		4
Output		2
Terminal programmable		1
Power supply and consumption		
Power supply voltage	V	12
Battery (if installed within MOD-BOX)	V	12
	type	1,2 Ah lead
Consumption	mA	140
Dimensions (lxdxh)	mm	125x93x25
Operating temperature	°C	+5 to +50
Weight	g	100

Wired devices

Telephone video-dialler

Video-dialler OKKIO

Video-dialler GSM-GPRS for video control.

6 connectable cameras.

Okkio allows to check whether an alarm is true or false. This function is very useful, especially in the location with high frequency of false alarms, such as external areas, shops ecc.

in case of an alarm detected by a control panel, Okkio acquires images by the camera installed in the area and sends via MMS and/or e-mail the video sequence recorded.

Okkio can also send a vocal message to inform about the alarm triggered and can be connected also to a CCTV existing system.

If the DVR has the motion detection function, Okkio can be activated even in absence of a anti-intrusion system.

The use of standard communication vectors (MMS, SMS, e-mail) does not require software installation on phone and PC.



Main characteristics

- Easy setting both locally or remotely via vocal guide or SMS
- Instant and automatically recording and sending of a video sequence after the trigger of an alarm
- 6 inputs of BNC type to connect 6 PAL cameras
- The 6 inputs are of the self-learning type; that is, they can be used with any type of signal whether normally present or absent, apart from the positive or negative electrical level.
- Every input can activate the recording and sending of vocal messages, SMS, MMS and e-mails
- Preview" function: made by camera 1, to record some seconds prior to the triggering of the alarm.
- Detection of the attempts of tampering cameras
- 2 remote control outputs, can be controlled both locally by keypad or remotely by telephone call
- Built-in microphone and loudspeaker. This is very useful to communicate with, for example, aged people in trouble.
- It is possible to install a second battery 12V 7Ah to increase the autonomy of the system
- Local keypad and 4 LED for status indications: AC power; alarm; low battery; SIM anomaly
- Up to 9 video sequences can be saved in the internal memory that can be visualised remotely
- Up to 9 telephone numbers and 9 e-mail addresses linkable to every event.
- For every event it's possible to choose the type of message and the recipient
- Okkio can be connected with every type of panel
- Sending video messages allows the user to save the recordings even in case of local memory damage

Other characteristics

- 2 abling inputs, whose status can be requested from remote locations
- 1 reset input which acts on the block of the alarm cycle
- 1 failure output, it can be used for activate a buzzer if a camera is tampered, in addition to the sending of SMS text.
- 1 battery charge output
- 1 auxiliary power supply output for cameras
- 9 e-mail addresses programmable by SMS
- Tamper protection integrated against opening
- Wall removal protection with optional kit, signalisation on dedicated line
- Remote programming by recognition of the caller's number
- 8 custom vocal messages (more than 20 seconds).
- Custom SMS linkable to each of the 6 inputs
- MMS of 100 Kb (about 15 seconds recording)

Item code			OKKIO 910320
Input			9
Video input		no.	6
Output		no.	5
Video input type			BNC female
Video Signal		PAL	B; D; G; I; H 720x625
Module GSM/GPRS		Class	10
Quad Band			850/900/1800/1900
Power supply			
Supply voltage		V	230
Battery	lead battery	V	12
		Ah	7
Characteristics			
Encoder			H263
Dimensions of video-sequence		QCIF	176X144 pixel
Dimensions (lxdxh)		cm	33x26x8
Operating temperature		°C	+5 to +40
Weight		kg	2.750
Compliance			EN60950

Accessories	code	Description
TAMPER-KIT	910314	Tamper-kit 910314 Kit for wall removal protection

example of installation

OKKIO



Wired devices

Indoor sirens

Siren **SEL3** / **SEL3A**

SEL3
SEL3A

Indoor siren two-tones. The piezoelectric horn allows high performance with low voltage consumption.

It's suitable for anti-intrusion system since has micro-switch double function against removal and cover opening.

The siren **SEL3A** is different from **SEL3** since it's powered by a buffer battery (9V alkaline)



Main characteristics

- Acoustic power adjustable from 80 to 113 dB
- Low current consumption
- Protection against removal and cover opening

Item code			SEL3 999422	SEL3A 999544
Frequency		Hz	1600 – 2900	1600 – 2600
	modulation		2 - 3	
Adjustable acoustic power	max ad 1m	dB	80 – 113	
Power supply and consumption				
Power supply voltage		V	9 – 14,5	
Consumption		mA	20 – 80	30 – 110
	of control		-	0,3 – 1,3
Battery (if installed)	alcaline	V	-	9
Characteristics				
Housing		material	ABS	ABS
Dimensions (lxdxh)		mm	135x100x35	
Operating temperature		°C	-10 to +55	
Weight		kg	0.160	

Indoor sirens

Siren **SEL5F**

Indoor siren with LED flash, suitable for all installations where it's requested also a visual signalisation.

SEL5F It's suitable for anti-intrusion system since has micro-switch double function against removal and cover opening.

SEL5F



Main characteristics

- Acoustic power adjustable from 80 to 113 dB
- Low current consumption
- Protection against removal and cover opening

Item code			SEL5F 912001
Frequency		Hz	2400 - 2750
		modulation	3 - 5
Adjustable acoustic power	at 1m	dB	80 - 113
Power supply and consumption			
Power supply voltage		V	9 - 14.5
Consumption	siren	mA	100
	siren+flash		250
Characteristics			
Housing		material	ABS
Dimensions (lxdxh)		mm	117x38x117
Weight		kg	0.150

Wired devices

Outdoor sirens

Siren **SEL80W**

SEL80W

Siren with buffer battery and tungsten flash. It has a double frontal cover, the external one in polycarbonate, the internal in zinc-coated steel 8/10. The circuit is plunged in protective resin for a further protection against weather conditions and increase the resistance to vibrations and crashes. It has tamper micro-switch against opening and wall removal.



Main characteristics

- External housing: ABS
- Internal cover zinc-coated steel 8/10.
- Battery 12V-2Ah
- Acoustic power 117 dB at 1 mt
- Tungsten flash
- Protection against opening and wall removal
- Spirit level to make easier the wall mounting
- Circuit protected against polarity reverse
- Positive control to lack in case of alarm
- Circuit plunged in protective resin

Item code			SEL80W 910305
Horn frequency		Hz	1600/2700
Flash frequency		Hz	1
Max acoustic power		dBa	115
Alarm duration		Min.	3/8
Power supply and consumption			
Power supply voltage	lead battery	V	13.8
		Ah	2
Positive control voltage		V	5-14
Consumption	stand-by	mA	8
Consumption in alarm	siren	mA	950
	flash		300
Battery		V	12
Characteristics			
Battery life		years	4
Dimensions (lxdxh)		mm	210x280x90
Operating temperature		°C	-25 to +65
Weight		Kg	1.6
Compliance			EN 60950 EN 50130-4

Outdoor sirens

Siren **SEL80X**

SEL80X

Siren with buffer battery and xenon flash. It has a double frontal cover, the external one in polycarbonate, the internal in zinc-coated steel 8/10.

The siren **SEL80X** has high visibility xenon flash that activates simultaneously with the acoustic signal. It's also protected against foam introduction.



Main characteristics

- External housing: ABS
- Internal cover zinc-coated steel 8/10.
- Battery 12V-2Ah
- Circuit protected against polarity reverse
- Protection against opening and wall removal
- Flashing xenon lamp, to guarantee high performance with low current consumption
- In case of cables cut or long AC loss the visual signal keep flashing until the reset from control panel.
- Protection against foaming introduction
- Circuit plunged in protective resin
- Self diagnosis, by a dedicated output, to assure the proper functioning of the flash, horn or low battery

Item code			SEL80X 910316
Horn frequency		superiore	1400/1750
Flash frequency		Hz	1
Max acoustic power		dBA	101
Alarm duration	adjustable	Min	3-8
Power supply and consumption			
Power supply voltage		V	13.8 +3%-10%
Positive control voltage		V	7,5-14
Consumption	stand-by	mA	20+ -5
Consumption in alarm			1,2
Control voltage		mA	1
Battery			12V-2Ah
Characteristics			
Dimensions (lxdxh)		mm	240x323x97
Operating temperature		°C	-25 to +65
Weight		Kg	2,95

Wired devices

Outdoor sirens

Siren **SEL26F**

Siren with buffer battery with steel housing. It has flashing optic signal with tungsten flash.

SEL26F



Main characteristics

- Steel housing zinc-coated 12/10, electrostatic epoxy resin painted
- Steel cover
- Battery 12V-2Ah
- Circuit protected against polarity reverse
- Protection against opening and wall removal
- Positive control to lack in case of alarm
- Flashing tungsten lamp

Item code			SEL26F 999260
Horn frequency		Hz	1600 2700
Flash frequency		Hz	1
Max acoustic power	at 1m	dB	117
Alarm duration	adjustable	minutes	3-8
Power supply and consumption			
Power supply voltage		V	13,8
Positive control voltage		V	7-14
Consumption	in alarm	A	1,25±10%
Control voltage		mA	1
Battery		V	12
Characteristics			
Dimensions (lxdxh)		mm	228x196x75
Operating temperature		°C	-25 to +65
Weight		kg	2,9

Outdoor sirens

Siren **SEL28FI**

Siren with buffer battery. It has flashing optic signal with tungsten flash. and inox steel cover.

The electronic circuit, with micro-controller, is plunged in resin for a total protection against weather conditions.

SEL26FI



Main characteristics

- Steel housing zinc-coated 12/10, electrostatic epoxy resin painted
- Inox steel cover 12/10
- Battery 12V-2Ah
- Circuit protected against polarity reverse
- Protection against opening and wall removal
- Positive control to lack in case of alarm
- Flashing tungsten lamp

Item code			SEL26FI 999543
Horn frequency		Hz	1600
			2700
Flash frequency		Hz	1
Max acoustic power	at 1m	dB	117
Alarm duration	adjustable	minutes	3 – 8
Power supply and consumption			
Power supply voltage		V	13,8
Positive control voltage		V	8 – 14
Consumption	in alarm	A	1,25±10%
Control voltage		mA	0.5
Battery		V, Ah	12; 2,2
Characteristics			
Dimensions (lxdxh)		mm	240x315x88
Operating temperature		°C	-25 to +65
Weight		kg	3,4

Wired devices

Outdoor sirens

Siren **SEL27F**

SEL27F

Siren with buffer battery with steel housing.
It has flashing optic signal with tungsten flash.



Main characteristics

- Steel housing zinc-coated 12/10, electrostatic epoxy resin painted
- Steel cover
- Battery 12V-2Ah
- Circuit protected against polarity reverse
- Protection against opening and wall removal
- Positive control to lack in case of alarm
- Flashing tungsten lamp
- Siren SEL27F complies with CEI 79.2 – 2° level

Item code			SEL27F 999276
Horn frequency		Hz	<1800
			1,2
Max acoustic power	at 3m	dB	114
Alarm duration	adjustable	minutes	3–8
Power supply and consumption			
Power supply voltage		V	13,8
Positive control voltage		V	7–14
Consumption	in alarm	A	1,25±10%
Control voltage		mA	1,1
Battery		V	12
Characteristics			
Dimensions (lxdxh)		mm	228x196x75
Operating temperature		°C	-25 to +65
Weight		kg	2,9
Compliance			CEI 79.2-2° livello

Components

Power supply unit **AL12-24**

AL12-24

Power supply unit 12V, 2,4A. Suitable when it's necessary to supply external power supply to auxiliary devices and active detectors in security system.



Main characteristics

- Protected against polarity reverse
- Circuit for series regulation protected against over-voltage

Item code			AL12-24 999284
Power supply voltage ~		Vca, Hz	230, 50
Battery		V, Ah	up to 12 – 27
Output voltage		V	13,8
Max output voltage		A	2,4
Ripple full charge		mVpp max	50
Characteristics			
Protection fuse		V, A (fast)	250, 0,8
Fuse for battery protection		V, A (fast)	250, 4
Humidity		%	5 – 85
Dimensions (lxdxh)		mm	90x175x94
Operating temperature		°C	+5 to +65
Weight		kg	1,65
Compliance			EN 60950 - EN 60060 - 73/23/CEE

Wired devices

Components

Power supply unit **AL12-24BX**

AL12-24BX

Power supply unit 12V, 2,4A in metallic housing (it allows to house 12V, 18Ah battery).

It's suitable for security system (anti-intrusion/ fire) medium-large sized.



Main characteristics

- Tamper anti-removal, placed at the base of the box
- Protected against polarity reverse
- 4 LED on the front, to indicate:
 - AC power (green LED)
 - Output voltage lower than 10,5V (yellow LED)
 - Proper output voltage (green LED)
 - Output voltage higher than 14,9V (red LED)

Item code		AL12-24BX 999350
Power supply voltage	V, Hz	230, 50+60
Battery	V, Ah	12, 18
Output voltage	V	13,8
Max output voltage	A	2,4
Ripple full charge	mVpp max	50
Characteristics		
Protection fuse	V, A	250, 0,8
Fuse for battery protection	V, A	250, 4
Humidity	%	5 – 85
Dimensions (lxdxh)	mm	218x400x128
Operating temperature	°C	+5 to +40
Weight	kg	4,6
Protection degree		IP30
Compliance		EN 60950 - EN 60065 - CEI 79-2, II lev.

Components

SHIELDED CABLES

Shielded cables, not propagating fire, comply with CEI 20-22 IEC 332.

SHILED CABLES



Item	code	Dimensions mm	Package m	Unit weight kg	Total weight kg
CV027AF	916064	2 x Ø 0,75	100	3,42	3,42
CV200AF	999580	2 x Ø 0,22	100	1,44	1,44
CV225AF	999583	2 x Ø 0,22 + 2 x Ø 0,50	100	4,44	4,44
CV227AF	999264	2 x Ø 0,22 + 2 x Ø 0,75	100	2,77	2,77
CV400AF	999581	4 x Ø 0,22	100	2,30	2,30
CV425AF	999584	4 x Ø 0,22 + 2 x Ø 0,50	100	3,80	3,80
CV427AF	999265	4 x Ø 0,22 + 2 x Ø 0,75	100	4,60	4,60
CV625AF	999585	6 x Ø 0,22 + 2 x Ø 0,50	100	4,71	4,71
CV627AF	999267	6 x Ø 0,22 + 2 x Ø 0,75	100	6,20	6,20
CV627AFHV*	999692	6 x Ø 0,22 + 2 x Ø 0,75	100	6,00	6,00
CV800AF	999582	8 x Ø 0,22	100	3,70	3,70
CV825AF	999586	8 x Ø 0,22 + 2 x Ø 0,50	100	5,23	5,23
CV827AF	999268	8 x Ø 0,22 + 2 x Ø 0,75	100	4,10	4,10

*High-insulation cable (Test voltage 3000W).

Components

Lead batteries **Series BT..**

Fracarro batteries, thanks to the high reliability and their long lasting are suitable for security system.

BT..



Item	code	Voltage V	Capacity Ah	Dimensions mm	Package pcs	Unit weight kg	Total weight kg
BT1.1	999892	12	1.2	97x49x51	1	0,560	0,560
BT2.1	999270	12	2	178x34x65	1	0,975	0,975
BT6,5.1	999271	12	7.2	151x65x99	1	3,3	3,3
BT12.1	999272	12	12	151x98x99	1	2,5	2,5
BT18.1	999001	12	18	181x76x177	1	6,24	6,24
BT26.1	999273	12	27	166x125x175	1	9,4	9,4

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BIR150-4	910351	61
BIR200-6	999126	61
BIR20-2	999150	60
BIR50-2	999124	61
BIR-C	999127	61
BIR-M	999135	61
BL100-NEW/B	999106	59
BL100-NEW/M	999508	58
BL200-NEW/B	999107	59
BL200-NEW/M	999509	58
BL50-NEW/B	999105	59
BL50-NEW/M	999510	58
BT1.1	999892	79
BT12.1	999272	79
BT18.1	999001	79
BT2.1	999270	79
BT26.1	999273	79
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CV227AF	999264	79
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CV427AF	999265	79
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